The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Royal School of Mines.

LECTURES ON MINERALOGY—No. I.

[BY OUR SPECIAL REPORTER.]

Prof. W. W. SMYTH, F.R.S., delivered a course of six evening lectures at the Geological Museum, Jermyn-street, on Mineralogy. The subject of the first lecture was the PHYSICAL CHARACTERS OF COALS. After a few introductory remarks on the value of lectures in connection with the objects in the Museum, he said that he should endeavour to bring before his audience in the present lecture some of the physical characters of coals which were important to its every day life, as well as others on which, though not so striking at first sight, depended the lives of many of our countrymen. On looking at a series of substances comprised under the term coal we see that they have a certain general resemblance, but on looking a little more closely at them, and especially in applying them for purposes of heat and light, we shall find great variations, so that it will be necessary to divide them into several classes, and distinguish them by different names. The term coal itself is an unsatisfactory title, and no exact scientific definition has yet been given of it. It is not long since two famous trials in Scotland, which turned on the question whether a certain substance was coal or not coal, resulted in the decision that the substance was coal; while shortly afterwards in another great trial in Prussia the same substance was declared not to be coal. In olden times the term was used to denote the substance we now call charcoal, that is the result of the charring of wood, while what we now term coal was variously called stone coal, pit coal, earthy coal, &c. Thus Marco Polo, in speaking of China, describes the Chinese as being in the habit of digging up a certain black stone, which would burn like "wood or coal" (meaning by "coal" what we now call charcoal). The question arises whether coal is to be considered as properly a mineral substance, and there is considerable difficulty in answering this question. We have a series of substances, all of which come under the ordinary appellation of coal, inasmuch as they are dug from among certain strata, and burn with more or less facility, giving out heat and light; most of these substances, the researches of chemists and microscopists have proved, are of vegetable origin, yet if we find a mass which does not show traces of vegetable structure, and is more or less crystallised, we must considered it as a true mineral. A mineral must have a definite chemical composition, and this is not the case with coals. In fact, the substances form a graduated series, commencing with almost unaltered vegetable tissue, and ending with anthracite in which no trace of vegetable structure may be discernable, and all definitions and lines of division must consequently be arbitrary. We can conveniently classify coals according to the proportion of carbon they contain, that being the important combustible element. Anthracite contains the largest quantity, in many cases 90 per cent., and in some cases in South Wales even upwards of 94; ordinary house coal may vary from 60 to 80 per cent. of carbon; in other instances a coal may have only 50 per cent., and of course possesses inferior heating qualities. Anthracite with its 94 per cent. of carbon approaches very nearly, and is, in fact, the next step to graphite and diamond, both of which consist of almost pure carbon, and are certainly minerals, as they possess a definite composition, and a definite regular crystalline form.

ANTHRACITE does not soil the fingers when rubbed; it is a valuable fuel, and not so much appreciated in this country as it deserves to be, and probably will be; at the same time, there is an inconvenience about it that it does not readily inflame, and especially that the South Wales anthracite decrepitates or flies into small pieces on burning, and so chokes the draught passages. Great success has attended the use of this variety of coal in Pennsylvania, where it is employed both for steam vessels and for iron furnaces, but some part of this may be due to the properties of their coal, especially as it is not given to decrepitate so much as that of South Wales. One valuable property of anthracite is that it gives a very concentrated heat, and also gives out heat for a very long time; it, however, takes a long time to light, and remains for some hours before it fairly burns, but when it does burn it gives for a long time a magnificent fire with scarcely any smoke or flame. In South Wales the fragments of anthracite are made up with an equal bulk of clay into balls which are used by the people as fuel. A most notable district for the occurrence of this anthracite or stone coal is that of Pennsylvania, where it occurs over a very large area in a number of curiously contorted beds; if these beds are followed into the interior of the continent they become less and less contorted, and gradually lose their anthracite character. In the South Wales coal field "bituminous" coal alone is met with on the east border and along the south part of the coal field, but on the north border the coal as it passes to the west assumes more and more of an anthracite character till in the west parts it is all anthracitic. And what is most noticeable is this—that the seams which on one side of the coal field dip downwards as bituminous coals rise on the other side as anthracite. Various theories have been proposed to explain the occurrence of anthracite, but none, so far, are entirely satisfactory. This variety of coal is also yielded by the Kilkenny coal field, and hence it is sometimes called Kilkenny coal. It occurs in small quantities in various parts of Europe, but one of the most remarkable instances of its occurrence has been related by a modern traveller in China, in the district of Shansee, in which he says he examined a great number of beds of anthracite, running from 12 ft. to 30 ft. in thickness, and which seemed to extend over a district more extensive than that of Pennsylvania, and as a proof of the facility with which it can be raised, he tells us that the selling price was not more than 3s. per ton of 2000 lbs. Like all other coals, anthracite contains mingled inorganic impurities, which remain behind forming ash; some varieties of coal produce only 1 to 1½ per cent. of ash, some as much as 30 per cent.

"BITUMINOUS" COAL, or ordinary house coal, contains a less proportion of carbon, but a greater proportion of oxygen and hydrogen, than anthracite, it usually soils the fingers when rubbed, and burns with flame and smoke. Different varieties of it are valuable for different purposes, and even the coal from one seam may sometimes be divided into several classes, each of which is suited to some particular purpose—coking, steam coal, household coal, &c. According to the manner in which they burn coals may be divided into two classes, one class containing coals which soften and cake together, and require frequent stirring (such as the Newcastle coal); the other containing coals which have no tendency to cake, and do not require so much attention, and are called non-caking or free-burning coals. The coal from the central part of the South Wales coal field is of this free-burning nature, and gives off but little flame and smoke, thus having somewhat of an anthracitic nature, and is much valued for generating steam. The term "bituminous" is misleading, since coals do not contain bitumen or pitch, but they contain gaseous substances which give off smoke and flame, resembling smoke and flame from burning bitumen.

Another variety of coal is named Cannel, of which a famous district is that of Wigan; it contains still less carbon but more gaseous matters, and is much valued for making the best qualities of gas, The name is derived from the bright flame it gives out in burning, enabling the workmen to do without the light of a candle in their houset, In Scotland it is termed "parrot" coal, on account of the crackling noise it makes when put on the fire; while for the same reason Yorkshiremen term it "rattlers." A variety of this coal is known as jet, and is worked by drifts among shales at Whitby in Yorkshire, being found in lumps of an irregular shape.

"LIGNITE or BROWN COAL" is a term still lower in the series of coals; it is used in parts of the Continent, but emits a disagreeable odour on burning. In colour it is sometimes brown, and looks exactly like wood, at others it is black and scarcely to be distinguished from ordinary coal. In Bohemia, and other parts of Austria, lignite is employed as a fuel in steamboats and even locomotives.

The lecturer then proceeded to describe the physical structure of ordinary coal, such as could be seen, for instance, in a piece picked out of the coal scuttle. First, there is a laminated structure, sometimes as many as 10 or 12 laminæ to the inch, and the laminæ may be successively bright and dull. Do these laminæ represent successive depositions of material with intervals between them? Probably that is the meaning of them. Often when these laminæ are separated the surface of fracture is covered with a number of fragments interlaced with one another, and having a beautiful striation, like silk; these are described by botanists as belonging to a particular class of plants represented now by such trees as the *Araucaria*. It will most probably be found that the piece of coal is more or less of a cubical form, having the sides parallel to each other; this is due to the fact that the coal is traversed by planes of division of an entirely different nature from the laminæ of deposition; these are known as the "cleat" of the coal. The direction of this cleat is wonderfully uniform over very large areas of country, and is of great importance in the practical working of the coal. It is found most economical to lay out the workings that the working faces may be fronted with the principal cleat faces; for, then, when the coal is holed under it has a certain degree of brittleness, so that it comes down readily, as a rule, with a few blows of the pick. The lecturer then showed how these planes when crossed by others at varying and unsuspected angles might give rise to unsupported and treacherous portions of coal, a source of great danger in the workings, and how similar danger lurked in the sections of stems of trees often met with in the sandstone forming the roof of the seam.

GEOLOGICAL SOCIETY OF LONDON.

Feb. 7.—Prof. P. MARTIN DUNCAN, M.B., F.R.S. (President), in the chair.

James Durham, Wingate-place, Newport, Fife; Herbert W. Harrison, Forester Cottage, Derby; William Hutchinson, Temple-street, Wolverhampton; H. M. Klaassen, Chepstow-road, Croydon; Graeme Ogilvie, B.A., Sizewell House, Leiston, Suffolk; Joseph William Spencer, B.A.Sc., mining engineer, Montreal, Canada; and Griffin W. Vyse, B.A., Assoc. Inst. C.E., executive engineer, Public Works Department, Government of India, Multan, Punjab, were elected Fellows of the Society.—The Rev. Ebenezer Davies, of The Green Oaks, Talbot-street, Southport; William Davies, Anthill-road, Bowroad; and Henry Davis Hoskold, mining engineer, Alma-terrace, Penzance, were proposed as Fellows; and George Jarves Brush, Professor of Mineralogy in the Sheffield School of Science, Yale College, Newhaven, Connecticut; M. A. L. O. Descloizeaux, Paris; Prof. E. Renevier, Lausanne; and Count Gaston de Saporta, of Aix en Provence, as Foreign Correspondents of the Society.—Samuel Arthur Adamson, Caledonian-street, Leeds; William Mason Cole, St. Helen's-street, Ipswich; Thomas Floyd, Sussex House, Howard-road, South Norwood; William Stukeley Gresley, Overseal, Ashby-de-la-Zouch; Edward Pritchard, Assoc. Inst. C.E., Church-street, Warwick; Joseph Pryor, mine agent of New Consols Arsenic and Silver Works, Callington, Cornwall; and John Gwillim Thomas, colliery manager, Ifor Cottage, Pembrey, Carmarthenshire, will be balloted for as Fellows of the Society.

The following communications were read:—

1.—"On the Chemical and Mineralogical changes which have taken place in certain eruptive rocks of North Walles." John Arthur Phillips, F.G.S. In this paper the author described the felspathic rocks of Penmaenmawr, which has been erupted through Silurian strata, and rises to a height of 1553 ft. above the level of the sea. The rock, which is composed of crystalline felspar, with minute crystals of some hornblendic mineral, is fine grained and greenish grey, divided into beds by joints dipping north at an angle of about 45°, and again divided by double jointings, sometimes so developed as to render the rock distinctly columnar. At the eastern end of the mountain the stone is so close in texture as often almost to resemble chert. In the next two quarries westward the rock is coarser, and its jointing less regular. In the most westerly quarry the stone is generally fresher in appearance, closer in grain, and greener in colour. All these stones are probably modifications of the same original rock. From the chemical analysis of the rocks the author concludes that, supposing them all to have had originally the same composition as the unaltered rock in the most westerly quarry, that at the extreme east of the mountain has lost about 3 per cent. of silica, and the others have received respectively an increase of 1·35 and 0·77 per cent. of silica. The altered rocks contain an abundance of quartz granules, due probably to the crystallisation of progressively dissociated silica, as the specimens of rock in which these granules occur do not contain a larger proportion of silica than those in which its presence can hardly be detected under the microscope. The proportion of alkalies in the different specimens does not materially vary.

Overlying the second quarry at the east end of the mountain is an ash bed of reddish-brown colour, containing more than 10 per cent. of protoxide of manganese and nearly 20 per cent. of peroxide of iron, and showing a great diminution in the percentage of silica when compared with the associated crystalline rock.

The author further described the characters of the uralite-porphyry of the Mawddach valley, near Dolgelly, which is of a greyish-green colour, spotted with black, and consists of a granular base enclosing patches and crystals of uralite, the outlines of which are sometimes sharp and well defined, but generally rounded and merging into the general base.

Mr. WARINGTON W. SMYTH stated that he had examined the quarries referred to, but without arriving at such satisfactory results as those brought forward by the author, to whom he felt obliged for several important suggestions. The rock appeared to be mainly all of one variety, though some geologists might perhaps be inclined to subdivide this great mountain mass. Chemically and commercially, indeed, there is a great difference between the several parts of this mountain. At the western extremity some little variation occurs, but at the eastern end, at Graig Lwyd, there were great differences. Great masses are left unworked from year to year because they do not wear well. These are of a finer grain, and there is no appearance of free silica in them, although it might exist in the other rock; and Mr. Phillips had shown that when free silica is present the rock is more useful. The discovery of the peculiar jointing which enables the rock to be easily cut into sets, has led to its being largely worked, and there is a great exportation of it to Manchester, Liverpool, &c. The discovery of free silica in the large grained varieties is, therefore, very interesting, as is also the determination of the kind of felspar associated with the silica. The paper was a very important contribution to our knowledge of certain rocks which possess much interest both mineralogically and commercially.

Prof. RAMSAY said he gas glad to find that Mr. Phillips maintained the broad general views originally set forth by the Geological Survey. He presumed that the author considered the Penmaenmawr rock not to be now, either chemically or mineralogically, by any means in its original state of consolidation from igneous fusion, and he would be glad to know whether any conclusion could be arrived at as to what this state was. He thought its metamorphism might have been assisted by nearness of the rock to the surface favouring the percolation of surface water. Continual changes had probably been going on in the Penmaenmawr rock ever since its original formation. He thought that the presence of such large quantities of iron and manganese in the ash, as shown by the author's analyses, might be due to infiltration rather than to the substances being original constituents of the rock.

Prof. JUDD called attention to the other rock not noticed by the previous speakers, whose remarks were confined to two only out of the three sorts referred to in the paper. He remarked that the uralite porphyry of North Wales was now for the first time thoroughly investigated, so that we can now compare it with the uralite-porphyry of Predazzo, which is altered augite-porphyry. The Welsh rock, in the changes round the edges of crystals and in its appearance to the naked eye, differs from the Predazzo porphyry. In the latter the characters are much more lost. Such careful descriptions and analyses as those given by the author are most important, and of the greatest interest to English geologists.

The AUTHOR, in reply to Prof. Ramsay's question as to the original state of the rock, said that the least altered rock was in the quarries opposite Beaumaris, where it exhibited silica, augite, and triclinic felspar. It was remarkable that although in metamorphism free silica appears the chemical composition of the rock is not much altered.

2. "On New Species of *Belemnites* and *Salenia* from the Middle Tertiaries of South Australia." By Mr. Ralph Tate, F.G.S., Professor of Natural Science in the University of Adelaide.

3. "On *Mauisaurus Gardneri* (Seeley), an Elasmosaurian from the Base of the Gault at Folkestone." By Mr. Harry Govier Seeley, F.L.S., F.G.S., Professor of Geography at King's College, London.

ZINC WHITE—PREVENTING THE CORROSION OF IRONWORK.—At the Society of Arts, on Wednesday, Mr. G. Godwin, F.R.S., in the chair, a lecture was given by Professor Barff, M.A., on two subjects, which in turn elicited considerable discussion. The first was that of "zinc white" as a substitute for white lead as paint. The serious objections to the latter pigment, both as regarded its effect on the health of manufacturers and painters, and its liability to discoloration under the action of sulphurated hydrogen, were mentioned, the lecturer referring to his new substitute as not only meeting those objections but also as possessing a body nearly if not quite equal to that of the best white lead. The basis of its manufacture—now carried on on a considerable scale at Liverpool—was the white sulphite of zinc. Many difficulties had to be overcome before the thoroughly satisfactory treatment of this material could be effected, the finally good results having been obtained by a judicious mixture of sulphate of barium and magnesia, which ensured the requisite whiteness and softness. The processes employed in producing the manufactured article were described in outline, after which various statements both for and against the new paints were made by members of the audience. The importance of securing a good permanent white for works of art was prominently alluded to, as well as the convenience to be derived from such a paint in our dwelling houses and other places subject more or less to traces of sulphurous fumes from coal gas and other sources. The second part of the [illegible] dealt with a newly discovered—or at all events, a recently intro[duced] —means of preventing the corrosion of ironwork of almost [every] scription. Its principle is the coating of the article to be pre[pared] with a superficial film of "magnetic" oxide of iron, by exp[osure] to the action of super-heated steam. The dark film of oxi[de] formed, being altogether different in its properties to ordinar[y] though not widely different in chemical composition, prevents [the] corrosive action even during exposure for years to the ac[tion] moist air, and under the most trying conditions. Portions [of] pipe which had thus been preserved for some years were [found] without a trace of internal rust, their interior having been orig[inally] exposed to the action of super-heated steam and thus rendered roughly "proof" against corrosion. The process has been [largely] applied with the greatest success to small articles, and it was [sug]gested in last evening's discussion that it should be as speed[ily] possible tried on some such large scale as the preservation [by] plating of iron-clad vessels. The generally expressed opinion that the invention had a great future before it.

NORTH STAFFORDSHIRE INSTITUTE OF MINING AND MECHANICAL ENGINEERS.

The annual meeting of the members of this Institute was held Stoke on Wednesday, Mr. J. MACDONALD (in the absence of Adamson, the President) occupying the chair.

Mr. W. WELLS BLADEN (the secretary) read the fifth annual port of the Council, stating that there was reason for both con[gra]lation and regret. There was a balance in the bank amount[ing] 275*l.* 10s. 9d. It was a matter of regret, however, that some members had ceased to take an interest in the proceedings of Institute, either from having left the district, or from their connection with the district having ceased. They had also several members by death, including Mr. James Bostock, of dale, whose loss was universally regretted; and Mr. Lionel honorary member, one of Her Majesty's Inspectors of Mines, name was well known amongst mining engineers throughout country, many of whom had to thank him for advice which always ready and willing to give. The present number of was 266—258 ordinary and 8 honorary members. The amount subscriptions outstanding was 39*l.* 18s. During the last year new members had been elected, and 95 had been struck off on of their subscriptions being in arrear. During the year there excursions made to North Wales and to the North Lincolnshire iron field. The latter was of a particularly interesting char[acter] and was attended by nearly 100 members and their friends. were due to the ironmasters of the North Lincolnshire district for courtesy they displayed towards the members. Through the [absence] which the President had taken in the proceedings of the Insti[tute] very valuable papers had been promised on various subjects.

Mr. T. M. GODDARD and Mr. E. FODEN, the scrutineers appointed to examine the voting-papers, reported the following appointments for the year:—President, Mr. D. Adamson; vice-presidents, Mr. J. Strick, J. R. Haines, and G. Barker; treasurer, Mr. J. G. Baker; secretary, Mr. W. Wells Bladen; council, Messrs. G. Hunter, J. Homer, J. Macdonald, R. Clive, T. M. Goddard, T. E. Story, G. Wilkinson, J. Ashworth, B. Woodworth, J. Lucas, T. S. Wilkinson and W. Heath.

In accordance with notice, Rule 9 was altered so as to provide the meetings being held bi-monthly instead of monthly as hereto[fore].

Mr. TEALE, of Manchester, exhibited some "protector" lamps improvements of some formerly exhibited, the main advantage which are that it is impossible for a miner to expose the light, which is extinguished by the act of opening the lamps.

The discussion on the paper supplied at previous meeting by R. A. Marshall, of Leicester, on "The Sectional Boiler" (Shepherd patent) was continued. Mr. MARSHALL said Mr. Homer had made a remark about the sectional boiler resembling bottles, but as no one else remarked, they were turned upside down. He thought the way they were arranged was the best. The boiler was made entirely of wrought-iron, and no cast-iron was used. Mr. Silvester described the boiler as of the Howard type. In the Howard boiler the diameter was larger at the top; in the bottle boiler the diameter was larger at the bottom, leaving room for the expansion of water and free liberation of the steam. In the Howard boilers tubes were all of the same size, which was not good for proper circulation of the water. As to Mr. Ashworth's remarks about the crustation of the boiler, there was a little door for cleaning the section of the boiler. Mr. Adamson had spoken about the extra boiler having a large amount of reserve steam. With the Shepherd boiler so much reserve steam was not required, because a small amount of steam would do a larger amount of work, and the engine could be cut off at a quarter-stroke, and so it could be economised. Mr. Adamson had said the Shepherd boiler would prime; but in the experiments which had been made the priming of that boiler had been absolutely *nil*. No accidents had occurred with the Shepherd boiler.——Mr. HOMER said the boiler to which he referred at the last meeting had been put down nearly 20 years ago; and it appeared to be of cast-iron, though he would not say positively that it was. The boilers made since might have been made of wrought iron. ——Mr. MARSHALL said there was a cast iron boiler made many years ago ——Mr. ASHWORTH said it appeared that in the Shepherd boiler there was only 2¼ gallons of water for every square foot of heating surface, and according to Mr. Adamson's data that was only half enough. He could not see how the circulation could be better in the Shepherd boiler than in the Cornish boiler. Then, Mr. Marshall said colliery boilers were given to priming, but his (Mr Ashworth's) were not.——Mr. HOMER intimated that he intended putting down four experimental boilers, and he should like Mr. Marshall to see where there were any of the Shepherd boilers at work.——In answer to Mr. Homer, Mr. MARSHALL said the cost of the Shepherd boiler was about the same per horse-power as the Galloway boiler. The Shepherd was the only sectional boiler which the insurance companies would insure. Two of them were at work at Manchester.—Mr. F. SILVESTER maintained that the Shepherd boiler was of the Howard type. The Howard struck out a path between the locomotive and the egg-ended boiler; but experience proved that it was not the kind of boiler to be used at collieries.——Mr. MARSHALL promised to supply further information as to where the Shepherd boiler could be seen at work and as to the prices of the same.—A vote of thanks was accorded him for his paper and his attendance.

The discussion of Mr. T. E. Storey's paper on "Fan *v.* Furnace Ventilation," formerly introduced, was continued.——Mr. SILVESTER argued in favour of mechanical ventilation in preference to furnace ventilation, except in small mines, the only question, to his mind, being which was the best fan to use.——Mr. STOREY said it had been shown that mechanical ventilation had not been so effective as deep as in shallow mines.——Mr. HUNTER said there were two fans at Talke.—There had been a great deal of trouble with one of the shafts. He had a furnace at the bottom of a shaft, 375 yards from the surface. The fan was at the top of a shaft, which was 100 yards deep, and they had double the ventilation which they obtained by furnace.——Mr. SILVESTER said there was this argument in favour of mechanical ventilation; there had been no accident from accumulation of gas where there was a fan.——Mr. MARSHALL said with a 5-ft. Scheils fan, worked by a Brotherton engine at 100 revolutions per minute, he got 20,000 ft. of air. Then they ran at 500 revolutions per minute, and could only obtain 30,000 ft. of air. The airways were a good size.——Mr. STOREY said the principal point was to get an equal distribution of air throughout the workings.—Mr. FODEN, referring to a remark by Mr. Silvester, said that there had been an accident at Bunker's Hill, where there was a fan.—Mr. HOMER and Mr. NICHOLLS testified to the speedy restoration of the ventilation after the explosion at Bunker's Hill Colliery, owing to the fan. Mr. Homer, referring to the Scheils fan, said if by working it with a small Brotherton engine they could get 30,000 cubic feet of air at a light cost, why not multiply it so as to get 150,000 where they needed so much. But they must not altogether discount furnace ventilation.——Mr. ASHWORTH said Mr. Waddell had told them that they could not get much more air by two fans at a time than one.——Mr. HOMER said he should only advocate duplicates for a

of accidents to one of them.——Mr. RIGBY testified to the satisfactory working of the Waddell fan at Bunker's Hill. After further remarks the discussion was again adjourned.

The annual dinner was held, after the business meeting, at the North Staffordshire Hotel, and about 50 attended. The chair was occupied by Mr. J. Strick, and the vice chair by Mr. G. Barker. Mr. Strick, as usual, provided bountifully and efficiently for the comfort of the guests. After the repast the usual loyal toasts were honoured.——Mr. WINTER then gave "The Army, Navy, and Volunteers," on whose behalf Mr. F. SILVESTER made a suitable response.——Mr. MACKWORTH then gave the toast of the evening—"Success to the North Staffordshire Institute of Mining and Mechanical Engineers." He referred to the origin of the Institute, and said it was now in a satisfactory position.——Mr. HOMER, whose name was coupled with the toast, responded, observing that the members of the Institute had met together for the purpose of an interchange of ideas bearing upon the occupations in which they were engaged, and he was sure that any member met with an engineering difficulty in carrying out suggestions the other members would be ready and willing to give him practical advice they were able to do. He had frequently heard persons say that the Institute had done much good, and that they had benefited to a considerably greater extent than the amount of their subscriptions owing to their connection with the Institute. (Hear, hear.) But the Institute was capable of being further developed. (Hear, hear.) There was nothing to fear with reference to their numerical strength. They had on the books 266 members, after striking off those who had from certain causes failed to comply with the rules and regulations under which the were associated together. It had been suggested that an effort should be made to provide a building for the Institute, and to form a museum. Although, no doubt, if they commenced to provide a building there would be found those to rally round them and assist them, yet, considering the good accommodation they had at the hotel where they held their meetings and their annual dinner, and considering that 279*l.* was not sufficient to form a substantial nucleus of a building fund, they should try to collect some of that money by engaging someone to give lectures occasionally upon mining subjects. (Hear, hear.) It was also desirable to thoroughly consider what was the best kind of machinery applicable to brick-making in that district, and if they could utilise the coal moulds about the district it would be an advantage to colliery proprietors. (Hear, hear.) Members would also do good service if they would pay attention to the oil-producing shales of the district. Rules and other matters should be taken into consideration by members, and should be brought forward at future meetings. (Hear, hear.)——Mr. HAINES said he had been connected with the Institute since its commencement. Much good had been already done, and much more would be done in the future by mining and mechanical engineers meeting together and interchanging opinions. (Hear, hear.) He proposed the toast of "Kindred Institutions." (Applause.)——Mr. DALE, who was called upon to respond, said he was a member of the Barnsley Mining Institute as well as that of Derbyshire, and had been proposed as a member of the North Staffordshire Institute. All those associations were doing a great amount of good, not only by their own ordinary meetings, but by their mixing and interchanging opinions with members of other institutions.——Mr. C. W. WILLIAMSON and Mr. G. BARKER also responded.——Mr. HOMER proposed "The health of Mr. Adamson, the President of the Nyrth Staffordshire Institute." He said Mr. Adamson took office for one year only, but had been re-elected. He (Mr. Homer) thought that one year was too short a time to hold that office, for when he (Mr. Homer) was president he felt that at the end of twelve months he was just beginning to thoroughly understand the duties. He predicted that next year they would elect a mining engineer; and he thought it would be better to have a mining engineer and a mechanical engineer as President alternately. The toast was very heartily drank, as was also the health of the Chairman of the evening, which was also proposed by the Chairman.——Mr. STRICK having responded, Mr. GARSIDE gave the toast of "The Ladies," for whom Mr. BLADEN responded. Mr. J. R. HAINES having proposed the health of the Secretary, who responded, Mr. F. SILVESTER gave the toast of "The Press," which was acknowledged by Mr. J. INGAMELLS.

— *Staffordshire Advertiser.*

MIDLAND INSTITUTE OF MINING ENGINEERS.

A general meeting of the members of this institute was held at the Queen's Hotel, Barnsley, last week, the President occupying the chair. Several gentleman nominated at a previous meeting were elected. An exhaustive paper, prepared by Mr. R. Russell, C.E., F.G.S., "On the Flockton Seam of Coal," was read by the Assistant Secretary, in the unavoidable absence of Mr. Russell.—A paper, entitled "Considerations on Atmospherical Influence in connection with Colliery Explosions," which ought to have been read by Mr. J. Warburton, was held over.—The members then resumed the discussion on Messrs. Wilson and Miller's paper, read at a previous meeting, entitled "A heavy Outburst of Gas from the Floor of the New Oaks Colliery." Mr. Miller, one of the authors of the paper, in the course of an interesting discussion, gave a cordial invitation to any member to visit the Strafford Collieries, of which he had the charge, and he thought he should be able to show them something bearing upon the subject under discussion. The President pointed out how essential it was for all connected with collieries, who had not seen anything of the kind, to visit the pit. They ought to obtain all the information they could, so that in the event of such an occurrence taking place in the future they would be better prepared to deal with it.

NON-CONDENSING WOOLF ENGINE AND BOILER.*

This engine and boiler were designed for working economically with steam of an absolute pressure of eleven atmospheres, this high pressure having been adopted as a compensation for the want of a cold-water supply for a condensing engine. The boiler consists of a cylindrical barrel 24 in. in diameter and 17 ft. 6 in. long, from which depend eight tubes (*bouilleurs verticaux*), 10 in. in diameter and 6 ft. long, made of 9-32 inch plate. The tubes, nearly vertical, are slightly inclined to right and left alternately, that the flame in its course may the better strike against them; and each tube contains an interior tube, about 5 in. in diameter, which descends nearly to the bottom of the outer tube, and is placed there for the purpose of circulating the water and steam. The steam is collected by a perforated pipe in the upper part of the cylinder. The fire-grate is 35 in. long and 30 in. wide, and is placed below one end of the cylinder. The flues, which envelope the whole of the boiler, except the upper portion of the cylinder, are constructed in three horizontal stages, which are traversed successively by the products of combustion mounting from one to another. The lower ends of the vertical tubes descend a few inches through the hearth or sole of the lowest flue, into a vault underneath, and they are closed by cast-iron doors. Thus the sediment that collects in the tubes may be extracted at convenient times, and any liability to blocking up the tubes by sediment and impeding the circulation is prevented. This boiler has been at work under an effective pressure of 150 lbs. per square inch for eight months without interruption, and has given great satisfaction. The engine is horizontal, on the Woolf system. The second cylinder has a capacity five times that of the first cylinder. Steam is cut off in the first cylinder at from 50 to 86 per cent. of the stroke, making an ultimate nominal expansion of from six to ten times. The steam is admitted to the first cylinder by a pair of valves controlled by a link-motion, having a slotted lever, by which the travel and thereby the point of expansion may be varied. Indicator diagrams, taken at a speed of 50 revolutions per minute, prove that the distribution is good; the intermediate fall of pressure between the first and second cylinders does not exceed 1½ lb. per square inch. The indicated back pressure in the second cylinder is 3 lbs. per square inch. The fuel (coal) consumed amounts to from 10 to 12 cwts. per day. The indicator power is said to be upwards of 23-horse power, and, allowing ten hours a day of active work, it would appear that the fuel consumed was under 5½ lbs. per indicated horse-power per hour.

— D. K. C.: Bulletin de la Société scientifique industrielle de Marseille.

* From JAMES FORREST'S "Abstracts of Papers in Foreign Transactions and Periodicals, for the Proceedings of the Institution of Civil Engineers.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. IV.*

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SECTION I.

ON THE MODE OF OCCURRENCE OF THE USEFUL MINERALS OR MINERAL DEPOSITS.

3.—THE THEORY OF SUBLIMATION.—The formation of crystals by sublimation is a well-known fact, and one often finds an undesigned example in the flues of smelting-furnaces. In this manner examples have been found of orthoclase, magnetite, galena, and zinc-blende. Durocher passed through a heated glass tube streams of gas and metallic vapours (chiefly combinations with chlorine), and in this manner obtained crystals of zinc-blende, iron pyrites, galena, horn silver, bismuthine, and antimonite. Dubrée, in a similar manner, with chlorine and fluorine obtained crystals of tinstone, oxide of titanium, and quartz. Iron glance is often found in volcanic districts as a product of sublimation. The possibility of the formation of many minerals and ores by sublimation has been proved beyond doubt. According to Durocher the unequal deposition of minerals and ores in veins is a special proof of their formation by sublimation, as they could only have been formed by different gases and metallic vapours, which streamed through the fissure at different times and in different directions. It seems more likely, however, to be due to the influence of the country rock.

4.—THE THEORY OF INJECTION, which supposed the filling up of veins to be due to volcanic injections—that is, to the injection of molten matter from the interior of the earth—found great favour during the first part of the present century. But, with the great majority of veins, the composition of the vein, the minerals filling it, the combinations in which they occur, the texture of the veins, the unequal division of the ore and minerals in the vein, are all great objections which this theory is incapable of satisfactorily explaining—so that it is not at the present day accepted as a probable theory. These theories are all possible, though unequally probable. A lengthened experience will lead one to conclude that it is impossible to give one explanation which will apply to all veins. Each vein must be judged by itself, and one will generally be able to give some theory or modification of a theory which shall explain satisfactorily the formation of the particular vein under consideration. The question occurs, is it not possible that each theory may be correct when applied to a particular part of the vein that all modes may have had part in the formation of the vein? We have in speaking of the depths to which lodes extend shown to what a comparatively small portion of that depth lodes have yet been worked. The formation of the fissure, as we have seen, is due almost certainly to volcanic activity, the same which produces earthquakes. If we suppose that the centre of volcanic activity is situated 30,000 ft. deep is it not possible that the injection theory may be correct for the lower 8000 or 10,000 feet, and that first at a depth of 20,000 ft. the molten matter comes in contact with water, which would be converted into steam, and might dissolve part of the minerals of the neighbouring rock, and also part of the injected matter when the lateral secretion and infiltration theories would give us a satisfactory explanation of the filling up of the rest of the vein.

Many lodes which show a ribbon-like structure, and contain quartz, carbon spars, heavy spar, fluor spar, and metallic sulphides have without doubt been formed by slow and gradual precipitation in water. The process appears mostly to have taken place at great depths, and to have required considerable time.

From this brief consideration it appears most likely that the formation of veins has been a somewhat complicated phenomenon, and according to Von Cotta has some connection with neighbouring and shortly preceding eruptions of volcanic rocks—*i.e.*, the local reaction of the hot fluid mass in the interior caused the fissure, and forced the hot fluid mass into and upwards in the fissure, occasioned gaseous currents and sublimations, and during a very long period the circulation of heated water or steam which at one place dissolved the constituents of the rock, and in others deposited minerals on the sides of the fissure. The whole process, therefore, of the formation of a lode must have taken place after the formation of the definite strata in which the lode occurs, and is hence not confined to any definite geological time, but it is rather to be considered as a phenomenon which has and no doubt is repeating itself in districts wherever volcanic action takes place.

Before concluding this section on veins and lodes it may be well here to consider a few of the deductions which it is well to bear in mind in prospecting for mineral veins.

Veins are found both in stratified and unstratified rocks, oftener in older formations than newer, as might be expected, since they have been longer exposed to the possibily of rupture than the latter. They are oftener found in the neighbourhood of eruptive rocks than at a considerable distance from them, and hence they are more generally found among hills and mountains than in large plains. They are oftener found in the neighbourhood of eruptive rocks where these have been covered by a very considerable thickness of strata than where the eruption has reached the surface and spread itself over the ground. Where the strata above the eruptive rocks have suffered considerable denudation, or where the eruptive rocks have nearly reached the surface, and a slighter amount of denudation has taken place, we shall find the veins vary very often at the contact of the two.

The ores which most usually occur in veins are gold native, usually accompanied by quartz or quartzose minerals, silver, copper, lead, zinc, manganese, iron (magnetite, brown or red iron ore, spathose iron), cobalt, nickel, quicksilver, bismuth, compounds with arsenic, tellurium, chromium, titanium, molybdenum, wolfram, and all kinds of pyrites.

BEDS OR STRATIFIED DEPOSITS.—Under the term beds and stratified deposits are included those mineral deposits which are parallel to and enclosed by overlying and underlying strata, and which must, therefore, be geologically of the same age as these beds. According to this, then, they are nothing else than strata, which from their contents draw upon them the attention of the miner, and which are worked for the sake of these contents. The term bed, however, has a somewhat wider signification than that just given, and includes horizontal surface deposits and underground deposits, which in their general form and extent correspond to parallel deposits or layers, but which in reality are later deposits or fillings up of a fissure formed parallel to the strata, and which may thus be called horizontal veins. An excellent example of this is the Fawnog Lead Mine, in Flintshire, which at first was mistaken for a stratified deposit between beds of millstone grit and carboniferous limestone. Compared with veins the limits of a bed are not very sharply defined. A true bed cannot cross another or produce a throw in the neighbouring strata like veins, and can never enclose broken fragments of the original roof; it never divides itself into branches or strings, but as all these are characteristics of veins, they may occur in horizontal veins.

In some countries the mining laws have distinguished veins and beds according to the amount of dip, so that veins with a very slight inclination were classed as beds, and beds which had heaved sufficiently were classed as veins, but such a definition is at variance with scientific and popular meanings of the terms, although the variation of dip may certainly be of greater practical importance from the geological nature of the deposit. The bedded deposits in different districts go by different names—"strata," "seams," "delf," "sill," "measures," and "post." The term mine is a very unsatisfactory name for a bed or seam; in the North of England they are sometimes called "girdles" from the appearance they present of a girdle round the shaft. The extent of a bed in an horizontal direction is called its strike, and that in the steepest direction, and, therefore, at right angles to the strike is called the dip. If the bed be greatly contorted the line of strike will be a curved line, and we shall have minor variations of the general strike, which may be termed in contradistinction to the general strike the local strike.

According to our definition of a bed it will be found enclosed between two parallel beds; the lower one is called the floor, pavement, or seat. In coal mines it is generally an underclay, the character of which is of the greatest importance to the miner; if it be soft and liable to heave, it may rise under great pressure into the roads, choking them up, and greatly increasing the expenses. The bed which lies next above is called the roof or top, and its character is of, perhaps, still more importance in the economical working of the mine. A tenacious shale or sandstone of considerable elasticity is, perhaps, the most favourable; sometimes this latter rock is tolerably brittle, and after standing over a considerable area for some time may suddenly break down close to the face. In some cases, where the roof is of a brittle shaley character, it is very common where the thickness of the seam or seams will allow it; it is usual to leave a few inches of coal in the roof when driving the roadways; in other cases it is found most advisable to rip down 1 or 2 ft. for the safety of the men travelling along the roads. The perpendicular distance between the roof and floor gives us the thickness of the bed; this is much more regular and persistent than that of veins, but is also liable to local variations.

The very fine laminæ of which many beds, especially shales, are made up are evidently the results of successive depositions of fine sediment at the bottom of some still or very slowly moving water. These depositions, however they may have been occasioned, and as long as may have been the interval between two successive depositions, had evidently not time to consolidate separately. To some similar method of deposition the planes of stratification in some beds are due, and where the interval of deposition has been sufficiently great the layers do not cohere. If we imagine any obstacle to meet the stream carrying the fine sediment, we shall leave some of the sediments deposited in a heap, and if the action goes on for a considerable time it may give rise to a large swelling. A similar effect might be caused by the meeting of two currents; it is probable that some such action has been the occasion of the formation of the rolls and swells or horse backs met with by the coalowner; these are met with in the mine as one or more parallel ridges, which rise through the floor, cutting out the beds for some distance. The top of the ridge sometimes rises quite through the seam, the coal bearing upwards on both sides of the ridge, and eventually thinning quite out. Sometimes when the seam is thick the coal is only thinned, the top portion of the coal regularly covering the horse back. At other times it may rise and pass through several beds. When the undulation is gentle it often subsides within from 20 to 40 yards, and the seam may when just approaching the swelling be thereby somewhat increased in thickness; the thickness of the coal, except in the immediate neighbourhood of the swelling, is usually unaffected.

Stratified rocks are sometimes met with that appear to have had channels or hollows cut into it by currents of water, which have been filled up by the next upperlying bed. Such phenomena are not unfrequently met with in the coal measures. In such a case, where a seam of coal is the next upperlying bed, we shall have the thickness increased.

The "bell moulds," "coal pipes," pot or cauldron bottoms, form another irregularity occurring in the roof of coal seams. In the district of Newcastle the rock forming these pot bottoms is of the same nature as the roof; often it is formed of refractory clay. A very pure bright glistening coal, from ¼ in. to 1 in. thick, separates it from the enclosing rock. These pot bottoms are generally formed from the stems of the sigillaria. In Belgium they are formed of a nucleus of ferruginous clay, conical or semi-ellipsoidal in shape, and possess but little adherence to the roof in which they are found; their dimensions are very variable; nothing indicates their existence; the blow of the miner's pick against them gives one the impression that the roof is firm and compact, but after they have been robbed of their support by the removal of the coal, and too often after having given a false appearance of security for several days or even months, the cauldron bottom falls, killing or severely injuring the unfortunate miners who had trusted to the sound nature of the roof.

It is often the case with stratified deposits that after dipping in a certain direction for a considerable distance they gradually become more level, and eventually rise up towards the surface, forming long basins or troughs, and after rising they may become flatter, and eventually dip down again on the opposite side, forming a long ridge or "saddle." This rising and falling of the beds may occur of very considerable dimensions. These troughs and saddles may have been formed by upheaving or sinking of the strata, or by being squeezed together. When the last cause has originated the bending there are often other secondary curves, forming secondary troughs and saddles. Perhaps the best example to be found is in the coal measures at Mons, in the Wiron Revier. In such a case a map of the strike lines would show a sinuous or zig-zag line. Such smaller contortions or zig-zag foldings are very characteristic of the coal measures of Belgium, Rhenish Prussia, and North France. Over nearly all this extent one finds the beds of coal and even the surrounding clayey rocks folded and re-folded upon themselves several times, fitting close upon each other, without the least deviation from their general parallelism among each other, or from the general regularity of the different strata. The same dynamical cause which has given to the beds their general inclination has contributed equally to the formation of the folds or zig-zags. Two hypotheses, equally satisfactory, have been offered as to the cause. According to the one a great rising has taken place to the south of the coal measures, and has forced back the strata upon themselves in the folds as they are at present found. According to the second hypothesis a rising towards the north or a sinking towards the south had placed the coal measures upon an inclined plane upon which they had slidden down until they came to rest against the escarpments of pre-existing strata. In any case the different strata must have found themselves in a state of plasticity or tenacity sufficient to yield to the different movements without rupture or deformation in too complete a manner; then, solidified and compressed by a force as powerful as instantaneous, they were forced to occupy a less space than originally, and have yielded in folding and re-folding upon themselves as they are found at present. It also appears as if the lower beds which were subjected to the direct shock had had to yield in a greater number of contortions than the upper beds, for it has been generally observed that the strata situated on the south end of the basin are more frequently and strongly faulted than the others; that the regularity of the beds is the greater, and the number of the folds less, the greater is the distance from where the shock has taken place.

Notwithstanding the curved and folded form it is possible to identify and follow one and the same bed over a great extent of country, and without direct exploration between to identify the same bed in mines or districts at a great distance apart. Although the lithological character of the bed, its structure and thickness may be known, still it is rather the character of the neighbouring rock, the fossils which occur in it, and the occurrence of well-characterised strata which are of the greatest importance to the miner in searching for the bed. Examples:—In Shropshire and Staffordshire the coal beds are identified by means of layers of ironstone, and in Westphalia a characteristic conglomeratic stratum serves as a guide for a certain group of beds. In laying out any plan for the working and winning of a bed an exact study of the geometrical position of the bed, the mineralogical character of the neighbouring rock, and the nature of the fossils occurring in it and the adjacent beds are of the greatest importance, affording an exact idea of the form and position of the bed which is necessary in order to lay out a plan or rational principles for the working and winning of the deposit.

Of the greatest importance to the coal miner is the inner structure of the coal. Besides the planes of division due to stratification all rocks, stratified or unstratified, are traversed by numerous divisional planes, giving to the mass a jointy structure. This structure is not necessarily limited to a given number of sets of joints. Although, generally speaking, and especially with coal, stratified rocks are traversed by two sets of planes (at right angles) besides the planes of stratification forming the coal into cuboidal pieces, the number of joints may be much more, and form all angles with each other, so much sometimes as to entirely obscure the planes of original stratification. Beds of coal exhibit this inner structure, dividing the mass

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

of the coal into small cuboidal lumps. The coal splits most readily along the planes of lamination. The surfaces thus exposed on the tops and bottoms of the lumps are generally dull and earthy, and readily soil the fingers. At right angles to these surfaces others may be noticed which are generally bright, and if the coal be freshly broken these surfaces soil the fingers much less than those on the top and bottom of the lump. The planes which cut vertically across the planes of stratification are generally at right angles to one another, so as to make a number of square corners; one of these sets of vertical divisional planes is generally more persistent than the other, forming the large smooth sides of the lump, while the other sides are more jagged. The former large smooth vertical surfaces are known as the "face," "board," or "cleat" of the coal, the more jagged set being called the "end." The "face" or "board" of the coal is of the greatest importance in laying out the main and working roads of a pit, since it retains its parallelism over a very large area. Some coals possess only one set of vertical divisional planes, and in such the main roads and galleries should be driven along it, provided that there are no objections on account of the dip or otherwise of the bed. Where there are two sets of vertical divisional planes the direction of the main roads is not so much influenced by them, but these divisional planes are of the utmost importance in arranging the working faces. The easiest and most ready method of winning the coal is to advance against the board of the coal—*i.e.*, getting the coal on "board" or boardway. The proportion of small is, however, always much greater by this method, and, in some cases, where the pit is deep, and the coals tender or the weight considerable, the proportion of smalls may become so great as to make them unsaleable for best or even common coal. When this is the case recourse is usually had to the other method of working—on "end" or "endway." By these means a larger proportion of round or large coal is obtained. The direction of the faces of the coal remains pretty constant over very considerable areas if undisturbed by faults; in this latter case we may have the faces of the coal running in different directions on opposite sides of the fault. In the immediate neighbourhood of the fault the faces are often found running parallel to the fault.

Many bedded deposits consist of one or more massive layers of compact or granular ore—such as red and brown iron ore, magnetic iron ore, spathic iron ore, and clay ironstone. In such cases the division of the mineral in the deposit is pretty regular, and the roof and floor will be generally well defined, although in many other cases the transmission from ore to dead ground will be more gradual.

In many deposits, such as clay ironstone, the mass of the ore is arranged in several rows of lenticular-shaped nodules, lying in or between a series of stratified beds. When the nodules are very numerous and close to each other the deposit itself may form a bed. In the case of the nodules of clay ironstone, the diameter of the septaria seldom exceeds 1 ft.; their fracture is brown or greyish, and they are found as concentric layers round a nucleus of some foreign substance, from which it would seem probable that they are the result of chemical precipitation; their general place of occurrence is a few feet or inches above a bed of coal, with which they are often worked. Sometimes when the bed of coal is thin the working of the coal is quite a subordinate matter to the getting of ironstone.

In other bedded deposits the ore occurs in very fine particles spread through the mass of a bed or group of beds, as in the copper slates at Mansfeld, and the fahlbands in the metamorphic slates at Kongsberg, Norway, and in these cases the deposit would, perhaps, be better called an "impregnation." The former deposit is a somewhat characteristic one. The deposit occurs in the zechstein formation. In the Mansfeld district the upper member consists chiefly of unstratified gyps and dolomite, and below that the stinkstone or zechstein proper; this passes below into a bituminous marly state, the lowest portion (10 in. to 20 in.) of which forms the copper slate, and below this is found a conglomeratic white or grey marly sandstone, called "weiss" or "grauliegende," and which contains also some copper ore (sand ore); this rests upon the Rothtodtliegende. According to Friesleben, the ore-bearing layers can be divided as follows:—1. Dachflötz or top roof or seam.—2. The Kupperschiefer or copper slate.—3. The Weissliegende. The Dachflötz is a compact bituminous marly slate, which sometimes contains copper slate, but is generally not worth the winning for itself alone. In isolated places iron and copper pyrites, variegated or red copper ore, malachite, azurite, and galena are found. The ore is usually finely sprinkled throughout the mass, or in the form of very thin plates, or layers or strings. The thickness of the Dachflötz varies between 4 and 6 in.

The kupferschiefer, or copper slate, consists essentially of a dark bituminous marl slate, from 10 to 20 in. in thickness, in which chiefly copper and iron containing fossils occur. Besides copper and iron, silver, zinc, nickel, cobalt, lead, bismuth, and arsenic are found. The metallic contents of the slate are very various; sometimes the ore is in such fine particles as to be invisible, and sometimes it forms thin layers, nests, and veins. The different ores which can be distinguished are:—Copper pyrites, copper glance, variegated copper ore, native copper, fahlerz, red copper ore, native silver and galena (both very rarely), iron pyrites, zinc-blende, copper nickel, red cobalt earth. Only about half the copper slate contains sufficient copper to make it worth smelting.

The weissliegende consists of sandstone, conglomeratic sandstone, sandy marls of a prevailing white colour. This layer is also in some places impregnated with ore, which is then called sand ore. The ores usually found are copper pyrites (the most prevailing), copper glance, variegated copper ore, iron pyrites, galena, bismuth, and zinc-blende. The ore occurs finely sprinkled throughout the mass, or in very fine veins.

At Gerbstedt and Eisleben the deposit of copper slate has been subdivided by the miners as follows:—

Gerbstedt.		Eisleben.	
Oberberg	7 in.	Drehberg	7 in.
Noberg	3 „	Noberg	3 „
Lachberg	4 „	Kopf	2½ „
Kammschale	1 „	Kammschale	2 „
Kopfschale...	½ „	Grobe Lette	3 „
Schieferkopf	2½ „	Klare Lette	
Lachschale...	½ „		
Lachen	½ „		
Liegendeschale... ...	½ „		
Total	19½ in.	Total	17½ in.

These divisions are only local, and have, therefore, only local importance. The copper slate is evidently the result of a deposition in water, and is chiefly a mechanical precipitate. The bituminous character of the slate appears to have its origin from the numerous remains of plants and animals, especially fish. The mode of occurrence of the metal in the deposit seems to indicate a simultaneous deposition of the metal and the slaty sediment. It is impossible to consider that the mineral was previously in solution in a large lake in which so many fishes were living. It appears not improbable that during the time of deposition a volcanic eruption, or at least a volcanic rupture, of the ground had occurred in the neighbourhood (the Hartz or Thuringer Forest), accompanied by showers or streams of metallic vapours, and the like, and that the presence of metallic solutions which resulted in the comparatively shallow and enclosed lake, caused the rapid death of the various organisms, especially fish, the deposition and decomposition of which also reacted upon the metallic solutions, and caused at the same time a precipitation of their contents.

SHARE SPECULATION IN AMERICA.—The correspondent of the Times, writing from Philadelphia, on Jan. 23, says—There is dismay among the "bonanza" speculators of the Pacific Slope. From some cause—probably the decreased yield of silver—there has been a marked decline in the value of all silver mining stocks. These shares have not been so low upon the San Francisco Stock Exchange for years. When the Bank of California failed—the severest blow San Francisco had suffered down to that time—"Consolidated Virginia" did not fall below $200, or "Ophir" below $40. Now the former will not fetch $50, or the latter much more than $20. The San Francisco newspapers say there is the greatest consternation among dealers, who are being sold out right and left. Hundreds who were worth competence have been ruined in a week. A short time ago the people bought the "bonanza" shares at 70 and 80. They fell to 60, and the frightened holders sold out, but when the reaction had reached 50 they bought in again. The decline has been steady, and this selling and buying has been repeated, beggaring all who indulge in it. No reaction seems to come.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), 43 and 43A, Palmerston Buildings, Old Broad-street, write to us as follows:—

AMERICAN MINES—PAST AND FUTURE.—The great industry which has raised the Pacific Coast to the proud position it now occupies among the earth's fairest regions, and which promises to raise the Western States in the future as it has done in the past, is no new one in the world's history. Mining has been carried on ever since the remote period when, emerging from the stone ages, man discovered that the earth contained minerals far more adapted to his varied needs. The Bible records Tubal Cain as a worker in metals while Adam was still on earth; Homer speaks of the mines of Greece as worked in his day and before it; and the Phœnicians gathered tin from the Cornish mines hundreds of years before the birth of Christ. And yet with all these hundred years of mining the art is pronounced by those who have the most right to be regarded as possessing competent opinions on the subject as still only in its infancy, and down in the lower levels of the Comstock the industrious miner is still only "scratching among the roots of the sage-brush."

Ever since the period of which we have the earliest record of mining there has been a steady progress in the improvements in the way of working, and of late years the introduction of steam has completely revolutionised the world of mining—as, indeed, it did the world in nearly every other regard. Then came further introductions and improvements in the way of labour-saving machinery, ventilating apparatus, and the appliances to render deep mining possible, till finally man can penetrate to a depth of nearly 3000 ft., and endure a temperature, or mitigate it to the limits of endurance, which would once have been looked upon as approximating in a figurative as well as a literal, sense to that of the lower regions. There is no telling where all this may end. The invention of man has hitherto proved itself infinitely expansive, spreading so as to cover almost every created want of advancing civilisation. Not till the bottom of the earth's treasure-houses are reached will man cease to delve for them, and who can say at what depth the gold gnome has ceased to store his treasures. Therefore, it is absurd to say that the Comstock is "petred" out, as many do. Hitherto, for every bonanza that has been worked out a fresh one has been uncovered, and the end is not yet.

FLAGSTAFF (Silver).—Our private advices continue to fully confirm the official information as to the satisfactory and increasing value of this mine. The current output exceeds 70 tons per day, of an average yield of between $40 and $50 per ton, the aggregate cost not exceeding $25 per ton. It is most encouraging to find that no less an authority than Mr. Lockwood testifies not only to the satisfactory condition and future prospects of the mine, but states that the "amount of the ore to be raised is limited only by the hoisting facilities," and that the "quality of it is such as to render it a subject of eager competition among smelters." It is also satisfactory to know that no further litigation can now take place between Mr. Erwin Davis and the company, since upon the re-hearing of the case within the past few days, before the highest tribunal at Washington, resulted in the absolute confirmation of the judgment of Chief-Justice Schæffer at Utah, giving the company indefeasible possession of the mine. Messrs. Seglieman, the well-known American bankers, have consented to accept the financial management of the company, undertaking, if necessary, to render any temporary assistance that may be necessary, so that the mine's revenue may be at once available for dividends. Large investment purchases have been made during the week.

ISABELLE (Gold and Silver),—Continuing our remarks upon the auriferous veins comprised within this property, we would reiterate that we find rich silver and gold veins on the summit, and on the eastern slope of the Sierra Nevada, not merely in the middle age slates, but (in Nevada, Washoe, and Silver Mountain) in the comparatively modern volcanic rocks. We find gold not only in the "dark age" (Silurian) slates of the Ural and of Australia, but in the "middle age" (Jurassic and Triassic) slates of California, and even in the pyrites—possibly mechanically intermixed—of the extinct Pliocene rivers of the Pacific Slope.

The latter occurrence has been repeatedly met with in the pyrites that crystallise on the carbonised wood found in placer mining, but we are not assured of a sufficient degree of care having been taken in the test to exclude all possible mechanical admixture. Presumptively, we know of no reason to doubt the statement. Some of the placer pyrites in Nevada and Sierra counties, after ordinary separation by specific gravity in water, are certainly rich in gold. The Jurassic and Triassic muds were no sooner deposited than they were disturbed. The Sierra Nevada began to rise before the cretaceous rocks on their flanks were deposited, since we see the latter lying nearly horizontally on the upturned edges of the slates.

In the usual natural method of surface oscillation that caused the principal mountains and valleys of the globe, the slate muds must have been sinking and piling up thicker and thicker, at the same time that the axis of the Sierra was rising. This much we may infer from the fact that the valley of Alta California is a valley of depression. The coal mines of Mount Diable and Coral Hollow will easily convince us of the latter, by showing how their veins, on the top of the cretaceous, pitch under San Joaquin Valley, where they have been also explored, and are about to be worked. Veins are cracks. What stronger evidence then is needed of the age of the gold-bearing veins of the Sierra than that of their general parallelism to the axis of uplift and depression. These general conclusions support the expressed opinion of accredited experts that while the Mother Lode at Isabelle, like the Exchequer and I.X.L., will prove increasingly rich for both precious metals in proportion to depth, the side lodes will develope into true gold-yielding fissures, producing gold according to the scale upon which they may be developed.

In previous papers we have referred to the increasing interest taken in the Silver Mountain Mines by San Francisco capitalists and others, stating that among other evidences it had been determined to construct a railroad from Carson to Genoa—a distance of 16 miles. This will be a branch line from the Virginia and Truckee Railroad, constructed for the use of the Comstock Mines. The value of this extension cannot be over estimated, as it will place Exchequer, I.X.L., and Isabelle 16 miles nearer railroad communication, and covers by railroad the most difficult portion of the route.

The Virginia Enterprise says:—

NEW RAILROAD SURVEY—Another Division of the Virginia and Truckee Railroad Running South to Genoa—what there is to be reached after in that Direction and in the Future.—From C. L. Anderson, chief engineer of the Virginia and Truckee Railroad, we obtain the following particulars of a survey for a new division of the road, to be known as the Genoa division. The road has been surveyed and located 16 miles in a southerly direction from Carson, and towards Genoa. It runs 1800 ft. east of the main street of that place, and directly opposite the hotel at Warm Springs. The heaviest grade is 60 ft. to the mile. The route has been cross sectioned, and estimates are now being made preparatory to the commencement of work. The road is located as close to the mountains as is convenient, for the sake of the wood and timber along the line, and to bring it in connection with the ranches there located, so as to reach their hay and grain. It requires but a single glance at the position to see the desirableness of this new division of the Virginia and Truckee Railroad. A large amount of wood and timber is consumed daily here on the Comstock. It is true that the flumes connecting with the summits of the Sierras and the narrow gauge road, opening communication with Lake Tahoe, have developed immense resources, but these cannot last forever, and it takes time to build and equip railroads and construct connections such as are needed to provide and handle this daily consumption. But there is another objective point which, doubtless, the projectors of this plan have in view. Douglas county is rich in mineral resources, and adjoining it on the California side are Alpine and El Dorado counties, also bearing abundance, and calling for someone to come with requisite facilities to take and appropriate. This rich harvest field of minerals can be reached much easier from this side of the Sierras than the other; and, in consideration of the fact that the Central Pacific have a road over the range, the cost of construction and maintenance of another is too great to be incurred unnecessarily. A little extension of this new division of the Virginia and Truckee Railroad will open up this country at a comparatively small cost. There is, however, still another consideration, which is, doubtless, moving the Virginia and Truckee Railroad in this matter. The road will, unquestionably, be soon extended as far as Wellington, in Esmeralda county, and thus open communication with that section of the country, rich in resources, which has been mentioned in these columns. This is needed now, and will be [illegible] soon. And then, everybody knows that the construction of a Southern Pacific by some one is only a question of time. This new division will then become another link of a chain of connection running through and giving the people of Nevada a choice of routes both east and west.—*Enterprise.*

To show the value which San Franciscans attach to Silver Mountain Mines, we quote the following from the Alpine Chronicle:

"NEW COMPANY.—Articles of incorporation of the Onward Gold and Silver Mining Company, to mine in Alpine County, have been filed in San Francisco. The capital is $10,000,000."

EXCHEQUER GOLD AND SILVER.—The official advices to hand state that the No. 2 stope in the 200 had been driven [illegible] No. 1 stope 9 ft.—some fine stones of ruby silver ore in the face of the level. In the 100 the large stope had been extended [illegible] good ore: 47 car-loads of ore sent to surface. In consequence of 10 men having left, not taking to the new foreman, who is described as a disciplinarian, there was nothing new to report in the 300 and 400 ft. levels. Snow had fallen, but as soon as the weather became more settled hauling would be resumed, as the best ore [illegible] mine dump. Under date Jan. 22, the manager says—"I have seen O'Hara that I expect to be ready for him in 10 days; he will want a week's work on the furnace before we can start." This [illegible] the opinion that any day important information may be to hand. A San Franciscan expert, unknown to us, has communicated to a shareholder some exceedingly favourable items of information concerning the Exchequer Mine. The report is strictly private, and the name of the expert withheld. It states that the vein is a true fissure character, with 26 ft. of ruby silver ore of $100 to the ton. At each lower level the vein is larger and better defined, the lowest level is the best. The report concludes thus:—"The bonanza or rich shoots, found in the 400 ft. level, is kept private. It [illegible] to be a large paying mine. The ore is so rich it is only hauled at night." We are unaware who is the writer of this report, but the shareholder to whom it was sent assures us of its *bona fides*.

I.X.L. (Gold and Silver).—At the date of the last official advices (Jan. 22) the north drift from the engine-shaft at the 200 level was 422 ft., 12 ft. having been driven during the week. The width increasing from the face, which the manager adds "I am not sorry to see." The rise from the 200 (for ventilating purposes) had been extended 10 ft., now up 75 ft. The drain tunnel (Buckeye adit) had been driven only 6 ft., some of the miners having been sick. Mr. Arnott will not be able to build up his retorts and dry kiln this season in consequence of the heavy fall of snow. Mr. Chalmers has therefore, retained $2000 to cover this expense. The mill has been otherwise taken from the contractor, and a watchman put in charge (the manager adds) "I must say he (the contractor) has done a splendid job." We may mention that the favourable indications in the 200 of water issuing from the face not only continues, but is increased—a significant feature as the "end," or forebreast, of the drift is approaching the perpendicular of the bonanza.

BLUE TENT HYDRAULIC GOLD (No. VIII.)—In early days California gold was obtained by washing the auriferous gravel in ordinary iron pans, some 18 in. in diameter, and about 4 in. deep. So rich was the gravel that in certain districts as much as $150 had been obtained from one pan of "dirt." As the gravel became [illegible] the gold rocker was substituted, permitting the handling of a quantity of "dirt." This had soon to give way to "Long Tom" sluices, washing it by small streams of water; in turn, this gave to the use of an ordinary garden hose, the rubber giving way to piping and much larger nozzles, the pipes and nozzles being connected by means of canvass. The most modern improvement has been in the arrangement for handling the nozzle, which is done by means of the hydraulic apparatus, known as the "Giant" or "Monitor." The machine is so constructed as to be easily moved in direction by a movable water-joint. Until this invention only 100 inches of water could be used, whereas at present as large a volume as 1000 miners' inches, under a pressure of 400 ft., can be used to advantage and the machine handled with the greatest ease by one man.

A miner's inch is the quantity of water delivered through an opening of 1 square inch, under a pressure of 6 inches, for a period of ten hours. A delivery of 22,000 gallons for 24 hours is a miner's inch. There seems every probability that these hydraulic machines will be so perfected as to throw a stream of not less than 3000 inches. It has been clearly demonstrated during the past few years that the larger the stream of water passed through one nozzle the greater the economy, as well as the efficiency, of the work. As an illustration, it may be stated that it requires a less number of men when 1000 inches of water are employed than when only 300 in use.

We are often asked the important question—How rich must the auriferous gravel to pay for working? This depends on a variety of circumstances—(1) the hardness of the gravel; (2) the size of the boulders contained in the gravel; (3) whether it is cemented with lava; and (4) whether it is free from pipe-clay. Gravel that pays 5 cents to the cubic yard has been worked in various parts with a profit. Careful examinations place the gold contents of the gravel when on the "Blue Lead," or when the bank is 300 ft., or upwards of 200 ft., at from 10 to 15 cents per cubic yard, and the lower strata at from 30 cents to $1 per cubic yard.

Blue Tent has all the essentials of successful hydraulic mining; these are—(1) an abundant bank of gravel; (2) capacious and permanent outlets; and (3) a large and well constructed ditch, having a capacity for one-half its length of 5000 miners' inches, equal to a delivery of 110,000,000 gallons per 24 hours, the remaining portion having a capacity of 3000 inches. The property is a consolidation of a number of claims, aggregating 500 acres on the regular "Blue Lead," the depth of the gravel varying from 200 to 600 ft., the average of some 400 ft. During the last 20 years these claims have been worked at various points by several small private companies and individuals, who were unable for want of sufficient means to drive bed-rock tunnels that would enable them to wash the gravel on a large scale. Since owned by the present company, a bed-rock tunnel has been driven 550 ft., tapping the centre of the channel, rendering it possible to wash that portion of the property known as South Yuba, Johnson, and Gopher, as well as a portion of the Blue Lead. If certain indications now presenting themselves should continue, a much larger portion of the ground will be available for working through the same outlet—ground which cannot be exhausted for many years.

A suitable site for another tunnel exists in Cordy Ravine. A tunnel of about 1000 ft. in length from this point, in the direction of the Empire and Enterprise claims, would enable the whole of the property to be washed away. To exhaust the gravel deposits of the property, employing 2000 inches of water per day, would require at least one century of constant working. Much time has been expended in placing the property in a condition for future economical work. Up to the present time the company has been dependent entirely upon outside sources for water, but now the ditch has been completed there will be a much larger supply for (say) six or eight months of the year, dependent upon the season, and arrangements have been made whereby the water will be largely increased by storage and other means. While on the property we found that nearly the whole of last season had been occupied in opening the ground and placing the claims in condition to be worked, yet the results obtained from washing had averaged in the South Yuba claim nearly 30 cents for every inch of water used for 10 hours, and the "clean-up" in the Enterprise claim amounted to $4000, averaging 25 cents per inch of water for the same time—a result due in a great measure to the scientific skill brought to bear by the able manager, Professor Price.

When the South Yuba claim shall have been extended to the Johnson and Gopher claims on the one hand, and the Blue Lead claim on the other—which, under ordinary circumstances, should be done during the coming season—Blue Tent will then be in a most favourable condition for very extensive and profitable working. From the advantageous position of the property, situated on the well-known main auriferous gravel belt of California, it seems the quantity of gold produced is simply a question of how much water can be brought to bear upon the banks.

After a careful comparison with several other well-known auriferous deposits that have been working profitably for many [illegible]

very reason to expect that Blue Tent will soon enter upon of permanent success and profits, making the shares at pre- tations a good, sound, and remunerative investment. [At s may be seen specimens of the auriferous gravel, the black which gold is always found), and also the clean gold. re selected, and the gold was "panned" by ourselves when roperty in September last. We shall be pleased to show narkable specimens to anyone interested.]

LEY BRIDGE (Lead).—The manager writes that in the 30 Rake vein, the lode is 6 ft. wide, containing ribs of ore, lications of the near approach of a rich course of ore. The continues to improve, with ribs of solid ore in the end. 's vein, in the 20, is producing good ore, worth 15*l.* per fm. level, on Sun vein, at the bottom of the new shaft, under level, is opening out well. The vein in the end is worth of lead ore per fathom, and improving.

PATELEY BRIDGE (Lead).—This week's report is again ory. The Craven Cross vein in the 56 is still improving, g more lead than at any previous time; it is fully 6 ft. wide, character everything that can be desired for producing ore g quantities. In the 42 the lode is 2 ft wide, and as the proceeds the end is letting out more water; this indicates imity of one of the numerous cross-veins, at the junction rich deposits of ore may be reasonably expected. In the west, in the No. 2 shaft, the lode is producing 1 ton of lead fathom; in the driving north from this level, towards the ake Vein, a considerable quantity of ore has been taken out. n important point. Lead dressing is progessing favourably.

RAL MARKETS.—Stagnation has been the leading feature of partment, foreign politics weighing upon business in every n. Towards the close Funds were comparatively firm, and stocks somewhat stronger in response to the movement of on most of the continental Bourses. Railways have been without animation. American railways unsettled, the fea- ing a sharp rally in Philadelphia and Reading Railroad National Discount shares have improved upon the fusion

THE WEEK.

DAY, FEB. 10.—There was again an upward tendency in East Vans, which ose 10s. on the day, to 8½, being just 2*l.* over what they were this day Eberhardt, Flagstaff, and Richmond made no more. An enquiry prevailed ov, at 2*l.* It appears that the recent sale of ore more than pays the costs from the commencement, and is even equal to one-half the whole nre, including the new machinery, which cannot but be regarded as highly ry. Argentine and Buenos Ayres stocks suffered rather severely to day, of course, they are still far too high. The 1868 Loan of the former gave to 70, and the 1871 issue 2*l.*, to 6*l.* Buenos Ayres, of 1870, from 73 fell ile the 1873 issue, after being as high as 71, closed no better than 66 to 68. 50 to 50¼; Russian, 82½ to 82¾; Peruvian, 15½ to 15⅝; Portuguese, 32¾; Turkish, 1871, 36 to 36½. In railways, Brighton, A, was again in and touched 102½, while North British dropped to 107. Great Eastern, 0¾; Metropolitan, 105 to 105¼; District, 46¾ to 46¾; Midland, 128⅞ Eley Brothers rose 10s, to 26, but Tharsis Sulphur fell 1, to 19, and Royal Aquarium 5s., to 2*l.*

MONDAY (Making up Day).—Richmond shares were found to be scarce when the settlement came to be adjusted, and those who endeavoured to get supplied quickly found there was no sellers at anything like 7*l.* This becoming known other buyers came to the market, and among them the price was raised to 7¼, 8. Some Flag- staff shares were pressed for sale from inability to carry over, and they did not close lower than 3¼. The downward movement in Argentine Bonds made further progress to-day. Notwithstanding there was a backwardation of 10s. the price of issue could be supported; the fall in that of 1871 was the greatest, being 2*l.*, to 2*l.* When the drawing in this loan is over it is expected still lower prices will prevail. In railways, Midland, Berwick, and Birmingham required back- wardations. York, A, was, however, suspiciously plentiful, and in the afternoon was put down to 130, a fall of over 2*l.* It appears from the directors' report that abandoning all hope of coming to an agreement with the Great Eastern, they propose seeking power to lay down a fresh double line to the metropolis by extending their branches between Hitchin and Lincoln, at, of course, an enormous expense. It was reported the Great Eastern were receiving overtures from the Midland, and the stock advanced to 50¼.

TUESDAY.—This was another day of depression, and there was no recovery at all. In foreign bonds Argentine, of course, led the way, but all are still at an astonishing high price. The 1868 shares gave way 1*l.*, to 69, and that of 1871 1¾, to 63. Buenos Ayres of 1873 gave way 2*l.*, to 65. Russians fell to 81¼, Egyp- tians were particularly flat, and the 1873 loan did not close higher than 49. French Threes, 72¼. Portuguese, 52¼ to 52¾. Turkish (1871), 33 to 34 (1½ worse). Richmond shares lost a good deal of yesterday's rise, closing 6¼ to 7¼, 15s. lower; the week's run amounts to $58,000. Almada were rather in demand at 8s. 6d.; they have made $3000 profit. Eberhardt, 8⅜ to 8⅝. Flagstaff, 3¼ to 3½. Parys Mountain, 9s. to 11s. Rookhope, 17s. 6d. to 20s. In railways the principal fall was in York, A, which went down to 129. Yesterday there were no backwardations to be extracted by this stock, some holders are, therefore, probably realising now that the principal source of income threatens to pass away. According to the dividend paid this stock should not be higher than 125, but viewed simply with regard to the future, and bearing in mind the increase of capital to the extent of 5,000,000*l.*, it would not be prudent to value it much higher than par. To this level, however, it is not likely to descend, for as just stated the principal holders do not look to mere dividends alone. Great Western gave way 1⅛, to 104⅜. Midland receded to 128, North British 106⅛, Sheffield to 72¼, and Chatham ordinary to 20½. The time must be arriving when the latter and Midland may be bought by those sufficiently strong to disregard market fluctuations. Metropoli- tan Tramways, 16¾ to 17 (week's increase 760*l.*) Edinburgh, 14½ to 15 (in- crease 160*l.*)

WEDNESDAY.—A rather large number of Eberhardts were pressed for sale, causing a further drop. The closing price was not better than 8¼ to 8½. There was also a decline of 5s. in Richmond—to 6½, 7. The settlement was successfully com- pleted, and a few purchases were made afterwards, but the movements were very irregular. Thus, Great Eastern, after being firm at an advance on yesterday, finally relapsed, and closed no better than 50—¾ lower on the day. On the other hand, York, A, was braced up, and recovered to 130, being a rise of ¾. East London, 15 to 16. Brighton, A, 102¼ to 103. Berwick, 156 to 156¼. Sheffield, 72 to 72¼. Caledonian, 124½ to 125. North British, 106½ to 106⅜. Among the traffic returns, Midland led the way with an increase of 2712*l.*, the next best being Chatham and Dover—2109*l.* North-Eastern had a decrease of 951*l.*, and Caledonian one of 382*l.* Argentine bonds were a firm market, and recovered in a couple of hours most of the last few days' fall. The 1868 Loan, after being dealt in at 68¾, rose to 71½—3*l.* higher than yesterday. The same rise from 63 to 66 took place in that of 1871. Egyptian, after touching 48½, rallied to 49¾, but all the Russian and Hungarian issues remained heavy and neglected.

THURSDAY.—When the Midland dividend (3¾ per cent.) comes to be taken off, as it will by the end of the month, no other stock can bear comparison with it for cheapness. Seldom has the price been so low; it reached the same level during the fatal month of May last year, but was also during the same year as high as 144. With one exception, it may be safely said that the stock has never been so low since 1871, when the St. Pancras extension was very far from completion. The rise of this company from an obscure tramway in the vale of the Soar has been something unparalleled. Firmly established in the metropolis, between that and Leicester, its original head-quarters, it throws out from the main trunk important feeders to Cambridge, Peterborough, and Northampton. Its main line between Bristol and Birmingham offers the best access to the Midlands, while its recent Somerset and Dorset extensions has seriously discomposed the sleepy gravity of the two West of England monopolists—Great Western and South-Western. By its leased line in South Wales it divides with the North-Western and the Great Western the cream of the coal and iron traffics, and competes with the former again at Chester and Manchester. Its last achievement has been to surmount the horrors of Blea Moor, and to divide with the North-Western the business of "Merrie Carlisle." It may be, as some of the shareholders have complained, that the pace has been rather fast, and that their dividends are threatened temporarily, but they must feel that no other company has such a bright future before it, and mean- while it has paid this half-year, with one exception, the best dividend declared by the heavy lines.

FRIDAY (Opening).—National Discount shares still retain yesterday's advance, and are firm at 10¾ to 11, consequent on the accession to the board of the Messrs. Cunliffe, bill discounters of Lombard-street. Eberhardts are higher than yester- day—8⅜ to 8⅝, and steady; Richmond, 6¾ to 7, dull; Flagstaff, 3⅜ to 3⅝. The December report credits Don Pedro, with a profit of about 300*l.*; the shares are unchanged at 10s. to 12s. 6d. Pennerley, 14s. to 16s.; Sweetland Creek, 4s. to 6s.; Exchequer, 1¾ to 2; I.X.L., ¾ to 1; Rookhope, 18s. to 20s.; Javali, 9s. to 11s.; Almada, 7s. to 9s.; Leadhills, 6¼ to 6½; Parys Mountain, 10s. to 12s.; East Van, 7 to 7¼. Eries are firm, and Philadelphia and Reading maintain yesterday's re- covery. Great Eastern, 49⅞ to 50⅛; North Eastern, 156 to 156½; Argentine, 1868, 71⅛ to 72½; Russian, 81¼ to 81¾; Peruvian, 14⅞ to 15⅜.—*Two O'clock.*—Eberhards continue firm at prices quoted above. The board have a wire from Capt. Drake stating that his former report about the mine not looking so well re- ferred to the new body of ore only. He adds, "In line looking more favourable." Railways are mostly a little better, Great Eastern, Midland, Caledonian, and Sheffield being all ¼ higher. Chatham Ordinary in place of being offered at 20 are now 20¼ to 20⅜; Dublin Tramway, 17 to 17½; Metropolitan, 16 to 16⅛; Edinburgh, 13¾ to 13½; London, 8½ to 9.—*Four o'Clock.*—Eberhardts close 8⅛ to 8⅜, being 8½ buyers for choice, and by some they are quoted 8½ to 8¾. In railways Brighton, A, is as high as 103⅝ to 103⅞, and Dover, A, is 112⅜ to 112⅝; North British after being 105½ has given way, and not better than 105¼. Cale- donian, however, maintain the slight rise of the morning—124⅜ to 124⅞. Great Eastern, 50 to 50¼. Chapel House Colliery are quoted 2⅞ to 3½; Bilston, 7 to 7⅛; Alltami, 5 to 5½, cum div.

FERDINAND R. KIRK.

Birchin-lane, Feb. 16.

HALIFAX.—Feb. 16: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 29½ ex div.; Halifax Joint-Stock Bank, 30 ex div.; Halifax Commercial Bank, 24¼ ex div.; London and Yorkshire Bank, 23s. 9d.; John Crossley's, 9; Whitworth and Co., 7½; Bradford Brick and Tile, A, 14; ditto B, 5; Ripponden Commercial, 9¾ ex div.; Yorkshire Boiler Insurance Co., 22s. 6d.; Norton Brothers, 7; Heckmondwike Manufacturing Company, 4; Goole Steam Shipping Company, 11.

QUICKSILVER.—His Excellency the Minister of Agriculture of Austria has appointed Messrs. Mahler Brothers and Co. sole agents in England for the sale of quicksilver produced in the mines of the Austrian Government at Idria.

CHAPEL HOUSE.—The sinking of the new 16 ft. shaft to the Park seam, to which we have frequently referred, is now completed, the Park Mine having been reached yesterday at a depth of 388 yards from the surface. The seam is 5 ft. 10 in. in thickness, and shows coal of first-class quality. The company has attached considerable importance to the completion of its new shafts, and great efforts, so far crowned with emi- nent success, have been devoted to pushing them on as rapidly as possible. There can be no doubt that the advantages to be derived from these works cannot be over- rated, as they will enable the company to increase its raisings to 1000 tons per day, and thus to double or treble its profits.

LONDON INVESTMENT CIRCULAR.—The Circular of Messrs. W. J. Tallentire and Co. issued on Wednesday has an interesting article on the Stock and Share Market. With regard to mines they state that in American attention has been chiefly directed to Eberhardt and Aurora, Richmond, and Flagstaff, in which heavy speculative dealings have taken place; the former shares, after being forced up to 12, speedily fell to 8½, and are now about 9¼. Richmond show a considerable fall on the month. Business in other foreign mines has been very restricted. As regards British mines, investments continue to be made in some of the best descriptions. Lead mines are specially in favour. Shares in low-priced tin properties are also being quietly absorbed. In the present uncertain state of the Stock Exchange markets investors would do well to turn their attention to British mines. It is a favourable time to buy. Prices are low, and prospects afford the spirited capitalist every hope of realising large returns. They have a register for facilitating the negociation of unmarketable shares, which will doubtless be appreciated by a large number of holders. A list of mines recommended to investors is given, and a good share list, accompanies the Circular.

CENTRAL AND EAST FOXDALE MINES.—"A Constant Reader" writes:—The appointment of the new manager, Capt. George Rickard, to the Central and East Foxdale Mines reflects great credit on the board of directors in selecting a gentlemen of scientific and practical attainments, not only as an author of a valu- able work on mining, which should be read by all young miners, but as a thorough miner who has closely applied himself to mining in all its branches, and who will not fail to do his duty, both as regards the company and the employed. The writer, having known him for 25 years or more, desires to express his good wishes for his prosperity in the Island in connection with his new appointment.—*Isle of Man Times.*

COPPER ORES.

Sampled Jan. 31, and sold at Swansea, Feb. 13.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Betts Cove	125	7⅞	£5 9 0	Cape Ore	61	30½	£22 19 0
ditto	125	7⅞	5 9 0	ditto	59	28	20 13 6
ditto	112	8½	6 1 0	ditto	37	48½	37 0 0
ditto	111	8½	6 2 0	Union Ore	89	4¾	2 15 0
ditto	101	8¼	5 13 0	ditto	89	4¾	2 14 0
ditto	100	8¼	5 13 0	ditto	120	4¾	2 17 6
Cape Ore	77	29⅜	21 14 6	Berehaven	118	10	7 6 0
ditto	76	29½	21 16 6	ditto	60	8¾	6 9 0
ditto	76	29¾	21 18 0	Norway Ore	85	7½	5 3 0
ditto	76	29⅝	21 19 6	ditto	84	7½	5 3 0
ditto	50	39¼	29 15 0	Copper Ore	95	4	2 15 0
ditto	49	39¼	29 15 0	Copper Reg.	9	35¼	25 0 0
ditto	72	26¾	19 14 6	ditto	8	30½	22 6 6

TOTAL PRODUCE.

Betts Cove	674	£ 3,852	17 0	Norway Ore	169	£870	7 0
Cape Ore	633	15,020	5 0	Copper Ore	95	261	5 0
Union Ore	298	830	1 0	Copper Regulus	17	403	12 0
Berehaven	178	1,248	8 0				

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
P. Grenfell and Sons	547	£ 6,655 9 0
Nevill, Druce, and Co.	127	1,086 8 0
Vivian and Sons	714	3,355 9 6
Williams, Foster, and Co.	131	2,640 0 6
Mason and Elkington	220	805 18 6
C. J. Lambert	8	178 12 0
Sweetland and Co.	229	4,995 18 6
Landore Smelting Company	98	2,768 19 0
Total	2064	£22,486 15 0

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard.
Whole sale	2064	14 13-16	£10 17 10	14s. 8d.	£95 18 4

Copper ores for sale Feb. 27.—Betts Cove Ore 429—Carrecedo Ore 230—Union Ore 188—Var Ore 181—Portuguese Ore 162—Cronebane Ore 136—Tigrony Precipitate 23—Australian Ore 10—Copper Ore 4.—Total, 1363 tons.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Feb. 14: Deep Adit Level: The rise above this level is now communicated with the new shaft by a borer-hole, and all the water has been drained from the shaft; we are now rising in the same direction, and it will take us all this week to make a large hole for us to pass through; this being done, we shall at once commence to cut down the shaft to its full size (9 ft. by 5 ft.) to the deep adit level. In the east part of the sett (Crowlwm) in the cross-cut driving towards the south lode, there is nothing new to report on, except an increase of water, which I think to be a very good indication that we are not far from the south lode.

ASSHETON.—J. Craze, J. Manley, Feb. 15; No change calling for remark in any of the various bargains since our last. The highest bidders for the parcel of lead ore sold yesterday are Messrs. the Burry Port Smelting Company, at 14l. 0s. 6d. per ton, delivered f.o.b. here, realising 420l. 15s. We are pushing on the dressing for another parcel of lead to sample at the usual time.

BEDFORD UNITED.—Wm. Doidge, W. Phillips, Feb. 15: There had been no lode taken down in the engine-shaft or the 127 east. In the 127 west the lode is much improved, being worth from 16l. to 18l. per fathom. The lode in the 115 east continues worth 16l. per fathom. In the winze sinking below this level the lode is producing a little ore. In the 115 west the lode is worth 8l. per fathom. In the 103 east the lode is 2 ft. wide, producing ore and mundic—a kindly lode; west at this level the lode is disordered at present, still producing a little ore of good quality. The stopes throughout the mine are worth on an average 9l. per fathom.—South Lode: There is no change in the 47 east since last report. Good progress is being made in clearing out the cross-cut south at this level.

BODIDRIS.—H. Hotchkiss, Feb. 14: The 60 yards level, driving east upon the main lode, is set to four men, at 9l. per fathom, men to pay all cost and deliver stuff at surface. This end is now being driven through a lode producing specimens of lead and blende, and all possible speed will be made to get under the courses of ore met with in the upper levels. The 60 yards cross-cut to drive south has been re-set to four men, at 4l. 10s. per fathom, the men to pay all costs, &c. The nature of the ground in this level enables us to make good progress. The 45 yards level, to drive east upon main lode, has been re-set to four men, at 8l. 15s. per fathom; men to pay all cost, &c. The lode here increases in value for lead and blende every foot we drive. The forebreast now present a fine appearance, and will produce from 15 to 20 cwts. of lead besides blende per fathom, and the best of the lode is in the bottom of the level, which augurs well for the next level—the 60. We have had a continuation of this course of ore now for the last 16 yards driving, consequently there is a fine section of ground laid open for stoping. The rise in the back of this level is re-set at 7l. 15s. per fathom, the men to pay all cost, &c. The lode here is producing good orestuff for the dressing-floors. The 30 yards level east is being pushed on with all possible speed, and we shall reach the south part of the lode in a few days, so I shall be able to say more about this in my next.

CARGOLL.—J. Jennings, Feb. 14: Bowyer's flat-rod shaft is sunk 10 ft. below the 24, and are making very fair progress in sinking. The 24, east of shaft, on the caunter part, is driven 6 fms.; the lode in the present end is not quite so well today, which I think is only temporary, as it is showing very encouraging indications for an improvement again soon, now worth 15l. per fathom. The west end at this level is driven 8 fms.; the lode here is 2 ft. wide, but has not improved in value, yet it has every indication for an increased production of lead, worth 3l. per fathom. In cross-cutting north 8 ft. from the caunter part in the 11, and about 26 fathoms east of Bowyer's shaft, we have passed through a lode 9 in. wide, producing silver-lead of good dressing work, and are now opening on it east; probably this is the north lode which we had driven on east of Doctor's shaft; I shall extend this cross-cut a little further north to intersect another branch, which I believe is in that direction. The stope in the back of the 11 east is worth from 8l. to 10l. per fathom. In driving the adit east of shaft on the caunter part we have met with some good branches of silver-lead in the lode sometimes to the value of 5l. per fathom, and is still a kindly lode. The lode in the main adit end, west of new shaft, is still very large, and producing a little lead and copper ore in the mundic, and also letting out a quantity of water. Our engine has been working exceedingly well all through this wet season, and am pleased to state that the water has decreased three strokes per minute during the last fortnight.

CLEMENTINA.—W. Bennetts, Feb. 14: The lode in the engine-shaft is of much the same character as when I last advised you, producing some good saving work for lead in the south end of the shaft. It is a very nice-looking lode, and lets out a great deal of water. Nothing has been done in the 25 end south since last report. The lode is worth ½ ton of lead per fathom. Two of the shaftmen having left, I have taken the men from the end and put them in their place, as I am very anxious to get down the shaft as soon as possible.

COMBMARTIN.—C. H. Maunder, Feb. 15: We are progressing well with the clearing of Harriss's shaft, which is communicated to another cross-cut level at the 23. When cleared sufficiently full particulars shall be sent you. In the 15 west we have cut through to the footwall of the lode, and we find the orey part is quite 7 ft. wide, producing good saving work for silver lead. Considering we are only 5 ft. west of the cross-course, we have every reason to believe that as our drivage is extended a profitable lode will be the result.

CWM ELAN.—W. Goldsworthy, Feb. 10: The men are making fair progress in sinking the engine-shaft; the portion of the lode driven is composed of capel, lead, and blende ores. I am glad to say it has improved a little since I wrote to you last; worth at present 15 cwts. of lead and blende ores per fathom—a kindly lode. There is no material change to notice in any bargain throughout the mine since my report of this day week. I hope you received the sample of the blende ore parcel all safe. There are about 6 tons of lead ore in the bin.

CWMYSTWITH.—Feb. 13: No lode taken down in Michell's level west since last reported on, but we shall have it down by the end of this week. In the winze in the bottom of Michell's level west, on new lode, the part of the lode being taken down for 1 ft. wide is showing small spots of ore, but not sufficient to value. In Michell's level east, on the new lode, the lode is still 2 ft. wide, producing saving work. In Michell's cross-cut north the ground continues very stiff for driving. In the 12 east, on the new lode, no lode taken down in this end since last reported. In Gill's upper level, on new lode, the lode is still 5 ft. wide, strong and masterly, but poor. In the rise in the back of the Rosa level, on new lode, the lode is worth 10 cwts. of lead ore per fathom. Our stopes and tribute pitches are looking just as they have been for some time past. Owing to the severe weather we have not been able to complete the repairing at Kingside wheel as yet, but if we could get two or three fine days we should be able to complete it. We still continue to keep on the two crushers with the stuff from the wide stope at Level Fawr. The dressing is being pushed on as fast as possible, but we are not getting on as fast as we could wish.

DENBIGHSHIRE CONSOLIDATED.—Feb. 15: I am glad to tell you the whole of the water is out of the mine, and the men able to get to their various bargains. Full report in my next.

D'ERESBY MOUNTAIN.—W. Bennetts, Feb. 14: There is nothing new calling for any remark in the above mine since last week's report.

EAST DARREN.—Feb. 13: The 130, west of Skinner's shaft, has been driven 2 fms. 2 ft. 6 in. through a hard piece of ground, composed of beds of grit and carbonate of lime, unproductive for lead ore. The 130, east of Lewis's winze, has been driven 2 fms. 2 ft. 4 in. through a large lode, composed of a light clay slate, carbonate of lime, spots of copper, and small strings of lead ore; saving work for dressing of a low quality. Pearce's winze under the 116 has been sunk during the past month 2 fms. in a strong lode 1½ yard wide, yielding small branches of lead ore; saving work for dressing. The 80, west of cross-cut on the south part of the lode, has been driven 10 ft. in a lode 1 yard wide, yielding from 7 to 8 cwts. of lead ore per fathom. The lode in the present end is not looking quite so well, being disordered by a cross-measure of ground, which we hope is only temporary. The tribute pitches throughout the different levels are without change to notice, with the exception of one over the 116 fm. level, 120 fms. east of Taylor's shaft, which has become poor, and the men have left. We continue to have daily very heavy floods of rain, but by very careful attention to our adit level succeed in keeping the mine in fork. Our machinery is in good working order. Drawing and dressing progressing as the weather permits. Preparing ore for our next sampling.

EAST VAN.—Wm. Williams, Feb. 15: The driving west from the bottom of the winze (below the 25) is extended 2 fms. 3 ft.; the ground in the end looks very promising for the finding of the lead (seen in cross-cut A) to the westward. The end of the 25 west is up against a breast head, or a bar of ground crossing the lode, which we hope soon to get through. The lode in the rise does not produce so much lead for the last day or two, but we must remember that merely the width of a rise in this wide lode is very inadequate to prove its value. We have crossed 12 ft. into the new lode at Tempest shaft, having specks of lead all the way, but not sufficient to value. I believe we stand a good chance of making a discovery in driving both ways upon this lode.

EAST WHEAL LOVELL.—Richard Quentrall, Feb. 14: Fatwork: There is very little alteration in the new shaft below the 117 since my last report; the lode is 4½ ft. wide, producing some good stones of tin. We have commenced to drive a cross-cut north in the 17, towards a new lode on which we had sunk from surface some fathoms to water, and found it large, and of a very promising appearance to produce tin in depth. This cross cut will further test the lode, and serve as an adit, as we have a water-wheel pumping from this depth.—Tregonebris: In the adit end west the lode is about 1 ft. wide, producing stamping work. The lode below the adit continues to look very well, and is worth from 10l. to 12l. per fathom.

FRANK MILLS.—J. Rowe, N. Addems, Feb. 14: Setting Report: A cross-cut to drive west at the 115, north of engine-shaft, to meet with the west part of east lode, as seen in the 100 north, by two men, at 3l. 10s. per fathom. The 100 north of engine-shaft, to drive by the side of the west part of east lode, by six men, at 3l. per fathom; lode when last taken down was producing 8 cwts. of lead ore per fathom. The winze to sink in bottom of this level, by four men, at 4l. per fm.; lode producing 6 cwts. of lead ore per fathom. The stope in back of level, by six men, at 1l. 10s. per fathom; lode producing 8 cwts. of lead ore per fathom. A level to drive north of cross cut, east of this level, on east part of east lode, by two men, at 2l. 15s. per fathom; lode producing good stones of lead. The stope in back of this level, by four men, at 1l. 10s. per fathom; lode producing 8 cwts. of lead ore per fathom. The stope in back of the 72, north and south of cross cut, west of boundary rise, on west lode, by six men, at 2l. 5s. per fathom; lode producing 7 cwts. of lead ore per fathom. The stope in bottom of the 60, north of boundary rise, by four men, at 2l. 10s. per fathom; lode producing 10 cwts. of lead ore per fathom. The stope in back of the 60, by six men, at 2l. 10s. per fm.; lode producing 8 cwts. of lead ore per fathom. The 45 to drive north of air rise, south of boundary rise, by four men, at 4l. per fathom; lode producing a little lead; this level is being driven towards Wheal Exmouth part of mine, to enable us, by sinking winzes, to ventilate the 60 and 72 north. We are unable to drive those levels at present for want of ventilation. As soon as the communication is made with the 45 we shall push on the driving of the 60 and 72 north with a full staff of men in each end in unexplored ground. No. 1 stope in back of the 45, south of east cross-cut, north of Orchard air-shaft, on east branches, by four men, at 2l. per fathom; lode producing 6 cwts. of lead ore per fathom. No. 2 stope in back of level, by four men, at 2l. per fathom; lode producing 7 cwts. of lead ore per fathom. We have a great extent of ore ground opened up here standing entire to the surface. Five tribute pitches are being worked by 14 men, at 6l. per ton for lead ore. Machinery and pitwork in good working order.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., Feb. 10: The lode in the 132 east is worth 10l. per fathom. The lode in the stopes below the 117 is worth 12l. per fathom. The lode in the stopes in the back of the 117 is worth 10l. per fathom. The lode in the 105 east is without change in character since last reported on. The ground in the cross-cut driving south at the 105 is composed of killas and spar, rather stiff for progress. The ground in the rise going up in the back of the 95 to communicate with the 82 is progressing satisfactorily. The lode in the 82 is 6 ft. wide, of a most promising appearance, producing good stones of ore, accompanied with very strong sulphur mundic.

GLASGOW CARADON CONSOLS.—William Taylor, Wm. J. Taylor, Feb. 13: In the 78 east the part of south lode carried is worth full 20l. per fathom, and ground easy for working. Midway east worth 12l. per fathom. Winze in the bottom of this level, to come down on the 78, worth 20l. per fathom, with more lode standing to the south. This level east, on north lode, is worth 6l. per fathom. The winze in the bottom is worth 8l. per fathom. In the 65 east the lode is looking more promising, and we expect soon to get into ore ground. We have just cleared out the 65 west, on Arrol's lode, for the purpose of driving it; we hope we shall open some ore ground on this lode. We shall turn our attention to this and other lodes now we have completed the new shaft. The stopes and pitches throughout the mine continue to look very well, varying in value from 12l. to 25l. per fathom. The pump-rods are all fixed in the new shaft ready for working. We are now fixing penthouse in the back of the 78, preparatory to sinking below. We sampled yesterday (computed) 270 tons of copper ore, which will be sold on the 22nd inst.

GLENROY.—R. Rowe, Feb. 13: Notwithstanding successive runs, we have so far succeeded in clearing the north adit as to be able to reach the end to-day, in which there is standing a most promising lode, from 2 to 3 ft. wide, and we broke from it rich stones of blende, well mixed with lead. I hope to report further on this after being at the mine on Thursday. I attach much importance to this point of the mine for several reasons, one of which is that in a short distance further driving the end will come up to a junction of lodes which are separate in the mine at present, and for which we are cross-cutting. Another important feature before the north adit is a very large caunter lode, strongly mineralised at the surface, which will not require a long distance driving to intersect. The different cross-cuts are being pushed on without change, and there is nothing new to report in the 40 and 50 stopes. We are carting ore to Laxey as fast as possible.

GLYN.—J. Roach, Feb. 12: The lode in the engine-shaft is improving for lead. In the 28 west there is no alteration, but indications are in favour of an early improvement.

GOGINAN.—Feb. 13: We are making good progress in sinking Bryn Pica shaft below the 120. In the 130, east of western shaft, the lode is producing good stones of ore—a kindly lode. In the cross-cut north, east of shaft, we passed through a hard, strong lode, and produced ½ ton of ore per fathom; here we have reached the north wall, and the driving of the level eastward is resumed. In the 130, west of western shaft, the lode is large, and the part driven upon has yielded at times some good saving work, and we have now set the men to drive obliquely northwards, where we hope to find it more productive as seen above. The lode in the 120, west of Bryn Pica shaft, is improving, being more compact, and containing a good mixture of ore; worth at present ½ ton per fathom. In the 120, east of western shaft, the lode is large, and the portion carried yields good stones of ore, and an early improvement may be expected. The rise over the 120 and the winze under the 110 have been communicated, and a good section of ore ground laid open, upon which we have commenced stoping. The stope over the 120 will produce 1¼ ton of ore per fathom. The lode in the winze below the 110 will produce 1 ton of lead ore per fathom; this winze is being sunk to open out the ore ground for stoping, and to prove the north part of the lode. We have five tribute pitches at work, producing on an average 10 cwts. of lead ore per fathom.

GREAT DYLIFFE.—Edward Rogers, Feb. 14: Dylffe Lode: At the 120 west the lode is 5 ft. wide, and is worth 10l. per fathom. In the stope in the back of the 105 there is no alteration. The lode is worth 20l. per fathom. In the other tutwork bargains there has been no lode broken since last reported on.—Llechwedd-du Lode: At the 105, east of Llechwedd du shaft, tributers are employed stripping the side of the level, at 7l. 10s. per ton for the lead. I expect to find a large quantity of profitable ground at this place, as the lode has not been cut into for a long distance. There are men fixing a railroad at this level, in order to bring away the stuff.

GREAT LAXEY.—F. Reddicliffe, Feb. 13: The lode in the 235 south continues, so far as the small portion carried in the driving shows, to be of the usual character in this part, strong, but without ore to value. At the same level, but north of Welsh shaft, the end is worth 45l. per fathom. This end has not yet been communicated with the winze, although we have been daily expecting to do so. As the ends driving north and south from the bottom of No. 2 winze at the 225 are not carrying all the lode, the value cannot be correctly given, but it may be roughly taken at 90l. to 100l. per fathom. The 220 north is improved, and likely to become a valuable end, present value 30l. per fathom. No. 2 cross cut in the 210 north has not yet reached the eastern branch of the lode, although it is driven fully 5 fms.; this proves that either the "throw" has taken place north of the cross-cut, which is not at all likely, or that it comes no nearer the other branch for a considerable distance, which will be of importance to the level above as well as this level. At the same level the end on the lode is worth 40l. per fathom. The 200 end north is worth 5l. per fathom, but a portion of the lode is standing in the side, and may be very valuable when taken down. The winze in this level is deep enough for the 210, but that level is not up to it yet. The stopes in this part of the mine are of value as follows:—Two in roof of 220 north, 30l. and 10l. per fm.; one in sole of 210 north, 30l. per fathom; three in roof of 200 north, 40l., 50l., and 25l. respectively; one in sole of 190 north, 40l.; two in roof, 50l. and 60l. respectively; two in roof of 180 north, 15l. and 30l.; one in sole of 145 north, 35l.; and one in roof, 45l.—Dumbell's: The 215 is disappointing at present, both ends being poor; the lode is strong, however, and we do not expect to have to go far without an improvement. In the 200 north the end is not yet fairly upon the lode since the "throw" by the small slide. The 185 produces a little ore occasionally. The ore in the 170 north is not regular, but averages about 15l. per fathom. The lode in the 140 south is worth 40l. per fathom. In the same level north the lode produces a little blende only, but here we shall have to cross-cut shortly, as it is probable that there is a split in the lode and a better branch in the side. The same remarks apply to the 125 north. The lode in the 110 north is worth 25l. per fm. The 85 continues without change.—Stopes: There are two in the sole of the 185 south, worth 35l. and 15l. respectively. One in the same level north, 15l. One in the roof of the 170 south, 40l. One in the sole north, 25l. per fathom. One in the sole of the 140 south, 25l., and one in the roof, 70l. One in the sole of the 110 north, 65l., and one in the roof, 85l. The stopes in the old part of the mine are turning out their usual quantities of ore, while a rise in the roof of the 60 south is worth 35l. per fathom.

GREAT RETALLACK.—J. Harris, Feb. 10: The lode in the 20 west seems to be in a disordered state, it being composed of soft brown killas, with small branches of quartz crossing the end in various directions and in the large disjointed masses of grey capels being embedded, the masses are very troublesome to get through, being so hard sometimes that the men have great difficulty in boring holes to blast them; some of these masses contain small strings of blende, but of no value.

— J. Harris, Feb. 13: There is a better looking lode in the 20 end to-day, it being in a nice friable quartz, killas, with priany joints, a little mundic, and spots of copper ore.

HINGSTON DOWN CONSOLS.—James Richards, Feb. 15: The engine-shaft being now drained to the bottom, the shaftmen will at once resume sinking below the 160.—Bailey's Shaft: The driving of the 160 west will also be resumed, as well as the sinking of Nicholl's winze below the 160. In the 120 cross cut the south part of the lode has just been met with, and so far as cut into is yielding good stones of ore. In the 110 west, on the south part of the lode, the lode is 2½ ft. wide, and worth 4 tons, or 16l. per fathom. In the stope in the back of the 150 west the lode continues worth 6 tons of ore, or 18l. per fathom. In Chynoweth's rise in the back of the 140 west the lode is still looking well, and is worth 6 tons, or 30l. per fathom. The pitches continue to yield their usual quantities of ore.

HOLMBUSH.—H. Bennett, Feb. 15: All our underground operations continue much the same as when last reported on. We are sending to surface large quantities of very superior mundic and copper ore. The surface operations are being pushed forward as rapidly as possible.

KINGSTON CONSOLS.—W. Hancock, J. Chynoweth, Feb. 14: The water is out about 3 fms. below the 30, and we have set to cross cut through south part of the lode in western end of this level. The 18 to drive, west of shaft, on the lode, by four men, two months, at 5l. 10s. per fathom; lode 5 ft. wide, 2 ft. of which is saving work for blende and lead. No. 1 stope, in the back of the level, by four men, two months, at 3l. 3s. per fathom, producing 15 cwts. of blende and 4 cwts. of lead per fathom. No. 2 stope, by six men, two months, at 55s. per fathom, producing 1½ ton of blende and 6 cwts. of lead per fathom. No. 3 stope, by four men, two months, at 40s. per fathom, producing 1¼ ton of blende and ¼ ton of lead per fathom. No. 4 stope, by two men, two months, at 30s. per fathom, producing 10 cwts. of blende and 3 cwts. lead per fathom. The last sale of lead and blende, all delivered at Calstock, weighed over computation; total amount money value, 376l. 4s. 10d. We shall sample next week about a similar quantity, and hope shortly to commence operations at the 40.

LADYWELL.—A. Waters, Feb. 15: The 32 south is getting into softer ground, and the lode is letting out a considerable quantity of water; therefore, an improvement may be expected shortly. The 16 north is opening out tribute ground. The adit south is going forward into a soft lode, and opening out productive ground. Splendid lumps of galena and a good quantity of carbonate of lead were broken from the end to day, and it is evident the lode goes on improving as we advance towards the new shaft.

LLANRWST.—R. Knapp, Feb. 15: Our engine continues to work well, and Endean's shaft is in full course of sinking by nine men; the ground in the shaft is more favourable for progress, and of the same congenial character for lead. The walls of the crusher-house are completed, and the carpenter will at once commence to put on the woodwork for roof. We have completed our reservoir above the engine, and shall commence another below it next week to contain the water used at nights for condensing; these with the coming water will be amply sufficient for dressing the ores. We are proceeding with the dressing-floors, and hope to lay them out adapted to economy and dispatch, as we have, and shall continue to have, large quantities of ores to pass through them. The caunter lode at the adit, east of Prospect shaft, is 4 ft. wide, producing fully 3 tons of lead ore per fathom, with more lode still standing to the north, and which I have no doubt will be found productive also. At the 10 above adit, east of air shaft, it is 3½ ft. wide, producing 1½ ton of lead ore per fathom. In driving on the main lode at the 10, above adit, no change to notice has occurred; it is still in cross-course ground between two approximately near or two parts of the same cross-course. It is not likely the lode will undergo much change until we shall have passed through these. I hope to resume the sinking of the winze, east of Prospect shaft, under the adit on the caunter lode, shortly, as the sinking of Endean's shaft is draining it of its water, and in all probability will continue to do so all the way down; there is a fine lode of lead in this winze, and the indications are favourable to continued improvement when again sunk. The mine never looked better than it does now.

MARKE VALLEY.—Wm. George, James Stenlake, Feb. 9: Setting Report; To sink Salisbury engine-shaft, cut ground for and fix cistern, with standing-lift complete, put down main-rods, with stays, &c., by nine men, at per bargain, 60l. To drive the 148 cross-cut south, by six men, at 28l. per fathom.—Marke's Lode: To stope the back of the 124, by four men, at 3l., worth 3 tons per fathom. To stope the back of the 112, by four men, at 5l. 5s., worth 4½ tons per fathom.—Rosedown Lode: To stope the bottom of the 80, by four men, worth 5 tons of ore per fathom. To stope the back of the 70, by four men, at 4l., worth 3 tons of ore per fathom. No. 1 stope, in bottom of the 60, by four men, at 7l. 10s. per fm., worth 4 tons per fathom. No. 2 stope, by four men, at 5l., worth 3 tons per fm. To stope the back of the 60, by four men, at 4l., worth 3½ tons per fathom. To drive the 50 west by six men, at 8l., worth 1½ ton per fathom. No. 1 stope, in back of the 50, by four men, at 2l. 15s., worth 3 tons per fathom. No. 2 stope, by two men, at 4l. 10s., worth 3 tons per fathom. To drive the 30 west, by four men, at 7l. 10s.; the lode at this point is large, composed of gossan, spar, and mundic, with some copper ore intermixed, but not enough to value. No. 1 stope, in bottom of the 30, by six men, worth 6 tons per fathom. No. 2 stope, by four men, at 4l. 15s., worth 4½ tons per fathom. To sink a winze in bottom of the 20 fathom level, by four men, at 11l. 10s. per fathom, worth 2½ tons per fathom for length. To stope the bottom of the 20, by six men, at 5l. 5s., worth 3½ tons per fathom. To drive the 10 west, by four men, at 6l. 10s.; lode 2 ft. wide, improving in appearance, now worth ½ ton per fathom. To rise in the back of this level, by ... men, at 5l. 5s.; worth for length 2 tons per fathom. To stope the back of ..., by four men, at 3l. per fathom; worth 2 tons per fathom. To drive Salisbury ... west, by two men, at 5l. per fathom. We have set 11 tributes to 25 men; tributes varying from 10s. to 13s. 4d. in 1l. We have just tried the new engine, and find it works very satisfactorily. We expect in another week to get it in regular course of working.

MELLANEAR.—John Gilbert, Feb. 14: The lode in the 50, west of the shaft, is improved a little, now worth 1½ ton of ore per fathom. The lode in the ..., west of shaft, is mixed with killas, and rather disordered, but the lode maintains its size, and is worth 4 tons of ore per fathom. The rise in the back of the ... is worth 3 tons of ore per fathom, and the winze in the bottom also 3 tons. The lode in the 86, west of shaft, is looking very promising, and is worth 3½ tons of ore per fathom. There is nothing new in any of the other bargains since last report. The water underground is a little abated, and we can now keep it well with the engine going 12½ strokes per minute. We calculate that we shall sample on Tuesday next about 300 tons of copper ore.

MONYDD GORDDU.—Richard Rowse, Feb. 14: The 12 east on the ... lode is driving, by two men, at 105s. per fathom for 1 fm.; the lode is very promising, with some lead and copper, but not yet to value. The 12, west on the south lode, is not so valuable as last reported, but still a nice-looking lode, yielding some lead, and likely to improve again soon. This end is suspended for the present, and the six men rising and stoping the back just behind the forebreast to throw some light as to what we may expect from the ground standing between this end and the stopes on the same lode to the east. The price for rising is ... per fathom, and for stoping 65s. per fathom, and the lode is now worth ... per fathom. The stope on the south lode, under the drift, is yielding fair leadstuff; set to four men, at 70s. per fathom. The stope on the south lode, over the drift, also yields fair quality dressing work; set to four men, at ... per fathom. The stope on the main lode, over the adit, is finished, and the men tramming away the stuff. The 10 in. lift of pumps and connections are ready to send down, but we had better wait a few days for the country to drain a little, and for us to finish the present sampling before stopping the wheel. Crushing, dressing, and all other work proceeds regularly, and samples will be sent out next ...

NEW CHIVERTON.—James Trewartha, Feb. 15: There is nothing new in the underground operations as regards the lode since the report of the 8th inst. The rise going up from the 50 is up about 3 fms., and, as the winze below the 30 is about 7 fms., there are, therefore, 4 fms. more to rise to communicate with the winze. The engine is keeping the mine in fork moderately easy, the water is now about 8 strokes a minute, and still decreasing.

NEW CONSOLS SILVER AND ARSENIC WORKS.—R. Pryor and ... Jenkin, H. Vial, Feb. 14: On Saturday last we set the following bargains:—To drive the 60, east of Phillips's engine-shaft, by six men, at 10l. per fathom; the lode is 3 ft. wide, and yielding good stones of copper and arsenic. We are expecting an improvement in this end. To stope in the back of the 70, ... of Phillips's shaft, by four men, at 4s. 6d. per ton of stuff; lode 6 ft. wide, and worth 18l. per fm. To stope the back of the 70, on middle lode, east of Phillips's, by ... men, at 6s. per ton; lode 4 ft. wide, and worth 16l. per fathom. To stope the back of the 60, west of Phillips's shaft, on north lode, by four men, at 6s. per ton; lode 2 ft. wide, and worth 18l. per fathom. To drive the 40, east of Thomas's shaft, by four men, at 6l. per fathom; lode 4 ft. wide, worth 15l. per fathom. To stope the back of the 40 fathom level, east of Thomas's shaft, by two men, at 5s. per ton; lode 4 ft. wide, for the part carried worth 14l. per fathom. To stope the back of the 40 fathom level, west of Thomas's shaft, by two men, at 5s. per ton; lode 3 ft. wide, and worth 18l. per fathom. To stope the back of the 40, west of footway and west of Thomas's shaft, by four men, at 4s. 6d. per ton; lode 4 ft. wide, worth 12l. per fathom. To stope the back of the 40, ... Phillips's shaft, by six men, at 4s. 6d. per ton; lode 6 ft. wide, worth 20l. per fathom. To stope No. 2 stope in the back of the 40, west of Phillips's, by four men, at 5s. 6d. per ton; lode 6 ft. wide, and worth 24l. per fathom. To stope the back of the 30, west of Phillips's, by six men, at 5s. per ton: lode 5 ft. wide, worth 20l. per fathom. To stope the bottom of the 30, east of Thomas's shaft, by ... men, at 4s. 6d. per ton; lode 4 ft. wide, and worth 18l. per fathom. To stope the back of the 30, east of Thomas's shaft, by four men, at 6s. per ton; lode 3 ft. wide, and worth 14l. per fm. To cross cut through the lode at the 30, east of Thomas's shaft, by two men, at 4l. per fm. To rise in the back of the 20, west of Thomas's shaft, by four men, at 5l. per fathom; lode 3 ft. wide, worth 15l. per fathom. To stope the bottom of the 20, west of Thomas's shaft, by four men, at 4s. ... per ton; lode 5 ft. wide, and worth 25l. per fathom. To stope the back of the ... of Thomas's shaft, by three men, at 7s. per ton; lode 1½ ft. wide, worth ... per fathom. To stope the back of the 20 east of winze, east of Thomas's shaft, by ... men, at 5s. 6d. per ton; lode 4 ft. wide, and worth 20l. per fathom. To stope the back of the 20, west of Thomas's shaft, by two men, at 5s. per ton; lode 4 ft. wide, and worth 15l. per fathom. To stope the back of the 10, east of Thomas's shaft, by four men, at 5s. per ton; lode 3 ft. wide, and worth 14l. per fathom.—...gate: To stope the back of the 20, east of Satterthwaite's shaft, by four men, at 5s. per ton; lode 4 ft. wide, worth 25l. per fathom. To stope the back of the ..., west of Satterthwaite's shaft, by four men, at 6s. per ton; the lode is 3 ft. wide, worth 16l. per fathom. To stope the back of the 20, east of winze and engine-shaft, by two men, at 6s. per ton; lode 2 ft. wide, worth 12l. per fathom. To stope the back of the 10, east of engine-shaft, by four men, at 5s. 6d. per ton; lode ... wide, worth 25l. per fathom.—Western Part: To stope the bottom of the ... of Plantation shaft, by four men, at 5s. per ton; lode 6 ft. wide, worth ... per fathom. To stope the back of the 20, east of Plantation shaft, by six men, at 6s. per ton; lode 5 ft. wide, worth 25l. per fathom. We are making good progress in the erection of the two new chlorodisers, and are busily engaged in shipping a cargo of refined arsenic, and shall send off another parcel of precipitate at the earliest opportunity. All our machinery is working well.

NEW HENDRA.—W. Rowe, Feb. 10: The deep adit end set to drive north on the new lode, by six men, for the month, at 5l. 10s. per fathom; the lode improves in appearance as we open on it, and the men are making good progress in the end.

NEW ST. AGNES.—W. Vivian, Feb. 14: I have just now come up from underground in time for the post. I am glad to say the lode has very much improved in the bottom of the 74. We have been stoping at this point for copper ore with two men, and have met with a branch of tin on the north side of the lode; we have been working for copper ore for some time; the lode is 1 ft. wide, and very rich for tin. I have put the men that were driving the 84 east to work on it. If this lode continues as it is at present our loss on the present ... working will be very trifling indeed.

NEW TYLLWYDD.—J. Paull, Feb. 15: The lode in the 30, west of cross-cut, is 3 ft. wide, composed of clay-slate, spar, carbonate of lime, and lead ore; improved a little since last report, and likely to further improve. The 20, east on south lode, is still looking well; here we have put two more men, so that we may push ahead to lay open some good stoping ground. We have also put two men in the winze sinking below the adit on the south-west branch, where there is good ore. There is a slight change for the better in the 20, east on middle lode, which I hope will continue to improve. There is no material change in the surface department, with the exception of the pitch over the adit level, which looks better, and two more men are put on here. We are getting on as fast as we can with the dressing of stuff on surface in order to get out some of the tribute ore. All the machinery is in good order, and going well.

NORTH BUSY UNITED.—Thorman Woodward, Feb. 15: It affords me pleasure to inform you that we have a very important improvement, also the mine is looking well, of which you will (at a meeting to be held shortly) have particulars. In the bottom or 35 end, driving towards the Old North Busy, the lode is 2 ft. wide, worth 1 ton of tin, or 40l. per fathom; this lode is ... ground to surface. In the past six weeks we have sold tinstone amounting to ..., in which two parcels of best work (together 10 tons 3 cwts.) made 105l., ... work.

NORTH CORNWALL.—T. Doidge, Feb. 15: The weather continues unfavourable for surface work, but we are pushing on as best we can. We are taking head from quarry, and raising stone for engine-house, with other surface work.

NORTH LAXEY.—R. Rowe, Feb. 10: It being the pay and setting yesterday, after going through the mine, we let the following bargains: The engine-shaft per contract, to sink below the 136, at 30l. per fathom, by six miners and ... labourers, and now 12 ft. below the 136; the lode in the bottom is 2 ft. wide, open in the south end, and a heavy feed of water, with stones of lead. The winze to sink, and then to stope north on the ore ground; price for sinking ... per fathom; stoping, 4l. 10s. The lode from the north end of the winze for 5 fms. in length is worth from 1 ton to 1½ ton of lead per fathom, by four miners and four labourers.—South Ground: A new stope in the sole of the 60, by two ... and two labourers, at 4l. per fathom; value of lode can best be given in next report. The 60 stope in the roof, by four men and four labourers, at 4l. per fathom, on west lode; worth 1 ton of lead per fathom. Here we are within 12 ft. of the 50, and when we have worked up to that level, we shall then drive on that ... whole and new ground, the result of which will guide us as where best to ... cut in the 50 in advance; another month will say much as to this. To stope ... 50, by three miners and three labourers, at 3l. 10s. per fathom; lode worth ... 25 cwts. of lead per fathom. The 40 end on the west lode, by two miners and ... labourers; the lode is still in disordered ground, about 1 ft. wide, composed mostly of blende, mixed with lead. This is on the other side of the slide. ... for driving 7l. per fathom. At the 27 we have started a cross-cut for the west ..., by two men, at 7l. per fathom. I have omitted to name in order the 50 ... between the two shafts, by five men and five labourers, at 5l. per fathom; lode worth about 15 cwts. of lead per fathom.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, Feb. 15: In the 100 ... the lode is large, 2 ft. of it saving work for the dressing floors. In the 90 ... cavity for about 9 ft. in length has been met with, which has deteriorated the value of the lode; worth now about 7l. per fathom, but will no doubt shortly improve again. No. 3 stope in the back of the 80, and south of No. 4 winze, has improved; worth fully 40l. per fathom. No change elsewhere calling for any remark. We sold to-day two parcels of ore. No. 1, 25 tons, at 26l. 18s. 6d. per ton; No. 2, 5 tons, at 21l. 9s. per ton.

PANDORA (Lead).—H. Nottingham, Feb. 14: Nothing new to report from underground this week.

PARYS MOUNTAIN.—T. Mitchell, Feb. 14: The ground in the 90 cross-cut south is now mixed with quartz. The forebreast is less jointy, and rather softer for cutting. The stope at the 90, east of engine shaft, continues to yield some good copper ore. The stopes at the 80 and 65 are without change. Some of the stopes at the 45 are looking better. Some of the pitches are also looking better lately. We have had a mishap with some of the gear connected with our ... engine through the breaking of the pinion wheel. The shaft connecting the ... is also bent, and we have sent them to Sandycroft Foundry to be repaired. ... hope to have them back again some time this week.

PATELEY BRIDGE.—C. Williams, Feb. 15: The 30 east, on Rake vein, has been extended during the week 6 ft.; the vein in the end is of a fine ... character, and embedded between two well defined walls, consisting of ... gossan, quartz, carbonate of lead, and fine patches and ribs of ore, letting water in abundance, showing symptoms that we are approaching a rich course of ore. The 30 west, on same vein, continues to improve as we advance; the ... carried in the drivage is 4 ft. 6 in. in width, which consists of limespar, ... carbonate of lead, and ribs of solid ore—an excellent looking vein, and which in my opinion, cannot fail of becoming highly productive, extended since my ... 5 ft. 6 in. The south cross cut, in the 20 west, to cut Lumb vein, is being ... on night and day by a full pare of men; the ground in the end is strong hard ... stone formation, intermixed with spar glazed with lead, being identical with ... ground in the 10 above, close upon the vein. Fielding's vein, over the north drivage in the 20, is producing good ore, worth about 15l. per fathom, and ... to improve. The metal bargain in top part of bed, in the 20, is producing ... 1 ton of lead ore per fathom. The 30 has thoroughly drained this point ... east level on Sun vein, in bottom of new shaft, under Gillfield level, is opening

d tribute ground; the vein in the end is 6 ft. wide, and producing 30 cwts. e per fathom, and improving.
AN-DREA CONSOLIDATED.—Wm. Tregay, Wm. Prideaux, J. Pope, Sump: The water no longer gives us any trouble, and we shall be enable l n the bottom level (the 160) next week. The lode in the 160 west end is . per fathom. In the 140 east winze the lode here (Martin's) is worth 40l. no. In the 130 west end the lode here (Martin's) is worth 15l. per fathom 's: In the 100 west end the lode here (north) is worth 10l. per fathom. In the 90 west end the lode here (north) is worth 70l. per fathom. In the 80 west winze the lode here (north) is worth 50l. per fathom. In the 60 west end the lode here (north) is worth 12l. per fathom. In the 55 west end the lode here (north) is . per fathom. In the 56 west rise the lode here (north) is worth 10l. per We sold on Saturday last, the 10th inst., at Carvedras, 11 tons 3 cwts. of black tin, at 43l. 10s. per ton=485l. 2s. 10d. No other changes to

ERLEY.—W. T. Harris, J. Delbridge, Feb. 14: Engine-shaft: The lode is 1 ft. wide, worth 1 ton lead ore per fathom. The ground in the cross- is favourable for progress, and a good deal of water issues from the fore- The lode in the winze sinking below the 120 east is 2 ft. wide, worth 3 tons re per fathom, and very encouraging in appearance. The ground in the to intersect Warm Water lode is hard for progress. The lode in the 1½ ft. wide, producing ½ ton lead ore per fathom, and promising for vement. The stopes are yielding lead ore quite equal to last report.— Pit: The 90 cross-cut, driving south, is extended 5 ft., and at the extreme cut a branch of lead ore, worth 15 cwts. per fathom. The lode in the is 1½ ft. wide, producing good stones of ore. No change in any other the same may be applied to the pitches. A full report shall be sent you k.

LIMMON.—J. Garland, Feb. 14: There is not any change calling for re- any of the underground operations since my report of last week. A new the back of the 24, about 25 fms. east of the new winze, produces about lead ore per fathom. The cutting of ground for bob in the adit level will leted in a few days. Advantage is being taken of every dry day to push nstruction of shaft bob; a short period of dry weather would enable us to this work to a close. Drawing and dressing are being pushed on as fast le. Friday next being setting day, the usual setting report will be for- early in the coming week.

CE OF WALES.—J. Andrews, Feb. 12: There is no change in the mine t report. The water is forking moderately, and I hope the 77 will be dry k from this time.

CE OF WALES.—J. Andrews, J. Pryor, Feb. 14: The lode in the 55 west ide, composed of quartz, capel, mundic, and yielding rich stones of cop- The lode in the winze sinking below the 55 is still in a disordered state, ground is favourable for progress. The winze is now down 15 fms. below which leaves 6 fms. between that and the back of the 77. The lode in the has very much improved, and is now 2½ ft. wide, worth 8l. per fathom, and ng further improvement. On the whole, the mine is more promising than seen it for several months past.

IDENCE MINES.—William Hollow, Samuel Rogers, Feb. 9: Setting Tutwork: To drive the 150 east, on the Standard lode, east of Higgs' shaft, r fathom, by six men. To drive the 105 west, on caunter lode, east of ditto, r fathom, by six men. To drive the 105 east, ou ditto, east of ditto, at 6l. om, by six men. To drive the 105 cross-cut south, east of ditto, at 9l. per by four men. To rise and stope in back of the 85, on the Carbona lode, ditto, at 12l. per fathom, by eight men. To drive the 85 north, on the copper t of ditto, at 7l. per fathom, by six men. To drive the 75 west, on No. 2 st of ditto, at 12l. per fathom, by four men. To drive the 55 west, on the east of ditto, at 4l. per fathom, by two men. The pitwork, de, west of Hawks' shaft, at 6l. per fathom, by two men. The pitwork, hauling, and landing throughout the mines, at 15l. per fathom, by five men, mber of men employed, 51. —Tribute: A pitch on back of the 45, west of shaft, at 15s. in 1l., by eight men. Ditto, east of ditto, at 10s. in 1l., by n. Ditto, east of ditto, at 15s. in 1l., by four men. A pitch in bottom of est of ditto, at 15s. in 1l., by two men. A pitch in back of the 26, west of 13s. 4d. in 1l., by four men. A pitch in back of the 75, east of Higgs' shaft, n 1l., by two men. Ditto, ditto, at 15s. in 1l., by two men. The burrows n 1l., by one man. Ditto, ditto, at 15s. in 1l., by two men. mines, at 15s. in 1l., by nine men. Average 13s. in 1l., at 2s. dwt., or 40l. per in. Total number on tribute, 37 men.

AN GRAVELS.—A. Waters, Feb. 15: The 106, south of flat-rod shaft, is ng lode, and will soon be into the run of ore ground seen in the 95, south y's winze. The 106 north is yielding good stones of ore, and improving shaft below the 95 makes fair progress. The 95 south of shaft is now 2 fms., and entering productive ground, and will soon be into a good course The 80 south of said shaft (now driven 67 fms.) is worth 3 tons per fm. now 115 fms. south of new shaft, is going forward in a wide lode, worth ns per fathom. Stopes and other points as for some time past.

T PATRICK.—W. Francis, Feb. 14: I am glad to report continued good in the 120 yard cross-cut north; the cross-course still having its usual character, with firm walls and traces of lead ore all along the driving, and places thickly scattered patches of ore on the two walls. I am fully ex- that the next main vein we intersect will prove a rich and lasting one. yard cross-cut in the chert measures has every desirable appearance of being vicinity of great deposits of lead ore also.

H CONDURROW.—Wm. Rich, W. Williams, Henry Abraham, Feb. 13: ntation shaft is in full course of sinking, by six men. The rise in the 40, new shaft, is worth 5l. per fathom. The 50, east of King's, is worth 12l. per The rise in the back of this level is worth 9l. per fathom. The lode in cross cut north yields rich stones of tin, and has a very promising appear- t is not yet cut through. The rise in the back of the 60 is worth 15l. per The winze in the bottom of the 60 is worth 18l. per fathom. The 60 end worth 12l. per fathom. The 70 west is worth 8l. per fathom. The rise in this level is worth 12l. per fathom. The 82 end east is worth 9l. per fm. working the pumping engine rather over 12 strokes per minute. We find er in East Wheal Grenville old mine shaft is sinking. If things go well to resume operations in the 93 next week. We sold on Saturday last 4 cwts. of tin.

TH ROMAN GRAVELS (Lead).—John W. Powning, Feb. 15: I am pleased m you that we are getting on very much better in sinking the shaft, and ow perfect command of the water. We calculate to reach the 45 by the end month, after which we propose to sink about 6 ft. for fork, and then cross

TH TOLCARNE.—William Rich, William Hambly, Feb. 14: We are fore- the 50, east of engine-shaft on Fraser's lode, by six men. The end is now some 10 fms. east of cross-cut. The lode in the extreme end is 4 feet and carries good stones of tin. The gossan lode in the adit end east has rich stones of copper during the past week.

KERVILLE.—Arthur Waters, Feb. 15: The sinking of Watson's engine- ses on with fair speed, and the prospects of finding a good course of ore at t level are very encouraging. The 180 south is worth 5 tons of lead ore per fathom; the lode is 6 ft. wide, and improving as we advance. The other points the same as when reported on last week. We have to-day sold 100 tons ore for 1512l. 10s.

EBEIGH CONSOLS.—J. Gifford, Feb. 14: Ward's engine-shaft is down 2 ft., and so far as can be seen at present the two branches in bottom of aft are coming together going down, and I have no doubt that it is a regular and south lode, with a horse of killas 2 ft. wide between the east and west (which are both letting out a large stream of water), composed of quartz, blende, and silver lead ores, and although not in paying quantities as yet, promising for improvement in depth.

S CONSOLS.—J. Roach, Feb. 12: The 40 east is harder, and contains blende strong spots of lead; very promising. Murray's shaft has been completed to ttom (9 ft. under the 40), and sinking resumed on the lode, which produces ead; apparently the best portion of the lode is standing south of the shaft. , west of Murray's, has been communicated with the winze sunk under the are now preparing for stoping east and west therefrom for lead. Our ex- machinery and plant are all in good order, and working sati-factorily.

UGHAN.—Feb. 13: The deep level cross-cut north has been driven during the month 1 fm. 5 ft. through a hard strong lode, slow for progress, being com- of a clay-state, carbonate of lime, containing spots of lead and copper. This has reached the engine-shaft, and the deep level east, now being on the north t of the lode, which looks promising, yielding occasional stones of lead ore, work. In the present forebreast we have met with a cross joint, or slide, g east, and bearing 41° east of north, which has rather disordered the lode ent, but look forward to an improvement as we advance eastward. The t south of engine shaft has been driven during the past month 7 ft., and the cross cut north of deep level, since which the men have been engaged ring stuff and cutting ground for plat, &c., which is hard for exploring, composed of hard beds of rillers of spar, which are frequently met with at- to this lode. The 32 east of engine-shaft has been driven on a north part of lode 8 ft., and in stripping down the south side of the level have met with a ductive lode, composed of a blue killas, carbonate of lime, blende, and lead ore, ding of the latter 1 ton per fathom, and we have not yet cut through the and are of opinion, from present appearances, that we are entering a large ductive lode. The weather continues wet, but does not in any way inter- with our progress.

WEST ASSHETON.—J. Craze, J. Manley, Feb. 15: No change in the 80, 60, and 50, west of boundary shaft, since our last. The lode in the stope in back of 60, west of boundary, is worth 15l. per fathom.

WEST GODOLPHIN.—John Pope, Feb. 14: Our machinery and pitwork is working very well; the water is now 3 fms. below the 50. We have to-day re- ommenced the sinking of the winze in the 50 west on Wilson's lode. The different pitches in operation are without change to notice. I calculate we shall have about 30 tons of tin to sell this time. We are forking the water about 6 ft. in 24 hours.

WEST MARIA AND FORTESCUE CONSOLS.—William Skewis, Feb. 14: North Lode: The lode in the stope in the bottom of the 71, west of Willisford's shaft, is 4 ft. wide, worth 12l. per fathom. The lode in No. 2 winze, in the bottom of this level, is 3½ ft. wide, worth for the length carried 30l. per fathom. We have suspended the winze for the present, and put the men to drive the end west, where the lode is 3 ft. wide, worth for copper and mundic 12l. per fathom. No. 1 stope in back of this level is worth 20l. per fathom, and No. 2 stope 10l. per fathom.

WEST MILWR.—W. Francis, Feb. 14: There is no new feature in the 70 yards cross-cut south from West Meadow shaft; the ground is still hard. The rise on the main vein last intersected shows good indications for ore, the vein maintaining its width of over 2 ft. I expect to be able to report a great improvement here soon.

WEST PATELEY.—D. Williams, Feb. 15: The Craven Cross vein, in the 56, is still improving, and yesterday it produced more lead ore than we have hitherto The lode is fully 6 ft. wide, and intermixed with patches of ore throughout, and its character is everything that can be desired for producing ore in paying qualities, being a mixture of limespar, barytes, and carbonate of lead, &c. In the rise in the back of this level the lode is very promising, and I intend continu this for a short time longer to prove the value of the lode at this point. In 52, north west, the lode is 2 ft. wide, and, as the drivage proceeds, the end is ing out more water, which, in my opinion, indicates that we are approaching of the numerous cross-veins, at the junction of which we may reasonably ex- a rich deposit of ore. In the drivage west from No. 2 shaft the lode is still uing to produce about 1 ton of ore per fathom. In the drivage north from level, towards the north Rake vein, we have taken out a considerable quantity of lead ore. The dressing is progressing favourably, and I hope soon to have a ready for smelting.

WEST TANKERVILLE.—Arthur Waters, Feb. 15: No material change here since my setting report of last week. Weather favourable for surface work.

WEST WHEAL TOLGUS.—Feb. 14: The water is now in fork to the bottom of the 115, and the men have commenced to stope the back of the 115, east and west of the western winze, two pares, one nine and the other six men. In consequence of the water being in so long the sides have broken away a little, which the men are securing; and to morrow we intend setting the bargain, and hope soon to have away some ore to keep going the dressing pare. We intend setting the 115 end to drive west also to-morrow. We have to-day connected the rods below the 115 fm. level. There is one stope in the bottom of the 105, west of shaft, on an arch of ground yielding 2 tons of ore per fathom. One stope in the bottom of the 85, east of No. 1 winze, yielding 2 tons and one in the back of the 95, east of No. 3 winze, yielding 8 tons of ore per fathom These are just the only points from which we are getting a little ore to help on the samplings. But for the water being in, these stopes, with full pares, in the 105 would have kept us in a good state; but unfortunately it was not so. We shall have about 230 tons of good ore to sample on Tuesday next.—Richards's Shaft: Lode large and kindly, but not rich, yielding about 1 ton of ore per fathom. The lode in the 85 end is 2 ft. wide, yielding 2½ tons of ore per fathom. The stope in the back of the level is yielding 3 tons of ore per fathom. The lode in the 75 end west is 3 ft. wide, all spar. The lode in the 65 end west is 2 ft. wide, with a little ore, but not enough to value. The lode in the 55 end east is only just dividing the ground.

WHEAL CREBOR.—J. Andrews, Feb. 13: There is no change in the mine since the general meeting last week, every point being of the same value as was then reported.

WHEAL GRENVILLE.—T. Hodge, Feb. 15: During the last 24 hours we have forked 9 ft. I expect that we shall be able to put some men in the 140 fm. level on Monday next.

WHEAL KITTY (St. Agnes).—S. Davey, R. Harris, Feb. 10: New Shaft—Pryor's Lode: The men are making good progress with the sinking of this shaft below the 154 fm. level. There is no change to remark in the lode or branch mentioned in our last. In the 154, driving west of shaft, the lode is producing saving work for the stamps. In the 154, driving east of the shaft, the lode is producing good stones of tin. In the 142, driving west of the shaft, the lode is worth for tin 6l. per fathom. In the 142, driving east of shaft, the lode is worth for tin 9l. per fathom. In the 142, driving north of the shaft, on the caunter, the lode is worth for tin 10l. per fathom. In the 130, driving west of shaft, the lode is worth for tin 8l. per fathom. In the 65, driving west of the shaft, the lode is worth for tin 8l. per fathom.—Old Lode: In the 90, east of the engine-shaft, the lode is much the same as when last reported, worth for tin 6l. per fathom. In the 100, driving west of engine-shaft, the lode is worth for tin 7l. per fathom.

WHEAL NEWTON.—H. Bennett, Feb. 15: In the 40, driving east of Cook's shaft, by six men, the lode is about 2½ ft. wide. The north part is composed of carbonate of iron, flookan, and spar, intermixed with silver ore; the south part is composed of capel, with good spots of copper ore and arsenical munic. There is a quantity of water issuing from the lode. The 10, east of Cook's shaft, is being driven by nine men, at 6l. per fathom; the lode has improved, and is now worth 8l. per fathom. The adit west of Cook's shaft, by two men, at 5l. per fathom; the lode has a very kindly appearance, and we expect an improvement here soon. No. 1 stope in the back of the 3, east of Cook's shaft, by four men, is worth 20l. per fm. No. 2 stope in back of the 20, east of Cook's shaft, by four men, worth 13l. per fathom. No. 3 stope in the back of the 20, east of Cook's shaft, by four men, is worth 25l. per fathom. No. 4 stope in the back of the 20, west of Cook's shaft, by four men, is worth 17l. per fathom. No. 5 stope in the back of the 10, west of Cook's shaft, by four men, is worth 18l. per fathom. No. 6 stope in the back of the 10, west of Cook's shaft, by four men, is worth 14l. per fathom. No. 7 stope in the back of the 10, west of Cook's shaft, by four men, is worth 19l. per fathom. No. 8 stope in the back of the 10, east of Cook's shaft, by four men, is worth 18l. per fathom. No. 9 stope in the back of the 10, east of Cook's shaft, by four men, is worth 14l. per fathom. No. 10 stope in the back of the adit, west of Cook's shaft, by four men, is worth 17l. 10s. per fathom. No. 11 stope in the back of the 20, west of the engine-shaft, by four men, is worth 17l. per fathom.

WHEAL PRUSSIA.—W. Tregay, Feb. 15: The water is still abating, but we are not yet enabled to resume the bottom levels. The lode in the 30 end east is worth 20l. per fathom.

WHEAL RUSSELL.—J. Bray, Feb. 1: After having driven the 25 east through 70 fathoms of unproductive ground, I am glad to say that within the last few days we have cut into a most promising lode; it is not yet of equal value for the whole height of the level, but it is very kindly throughout, and at the best part it is yielding ore of the value of 15l. per fathom. I am sanguine we are on the eve of an important discovery.

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

The directors of the Moonta Mining Company have declared the 55th dividend, making in all 1,008,000l. paid to the proprietary from profits of the mine since it was opened.

An ingot of gold, weighing 151 ozs. 6 dwts., has recently been received in Adelaide from the Alma Mine, being the produce of 171 tons 5 cwts. of stone,

Several small diamonds have been found at Long Gully, Echunga.

Information has been received from the Agent-General that the representatives of two large railway contracting firms will leave London for Adelaide by the January mail, with a view to tendering for the construction of railways in the colony.

A Rabbit-meat Preserving Company has been started at Kapunda.

The question of additional cable communication is now engaging the attention of the colonies, and a Conference on the subject is to held in February, most probably in Sydney. Great inconvenience has been occasioned by the interruptions in the communication, and it is felt that it will be a great gain to have a duplicate means of telegraphing.

A contract has been entered into with the Netherlands India Steam Navigation Company for the establishment of a mail service between Adelaide and Batavia and the intermediate ports. Steamers of not less than 1000 tons are to leave Batavia five times a year, and call at Port Darwin, Sydney, and Melbourne, both ways. The first steamer will leave Batavia about the end of February.—*South Australian Register*, Dec. 30.

AUSTRALIAN MINES.

BURRA BURRA.—Capt. Sanders, Dec. 27: During the last four weeks we have cross-cut east 2½ fms. and west 3½ fms. at the 85, from Morphett's shaft. The east cross cut has passed through a lode 12 ft. wide, with two well-defined and firm walls; the lode is chiefly composed of quartz, and spotted throughout with grey, purple, and yellow sulphurets, small pockets of a soft black oxide and thin scales, and spongy malleable copper, saving all for dressing. The lode and hanging rock have undergone a remarkable change since seen in the shaft 5 fms. above; it is now of a brown rusty colour, the hanging rock being massive, with open rusty joints. In the west cross-cut we have cut into a lode 12 ft. wide. This lode has also undergone a change from the level above—more quartz and stained with the oxide of iron. Have cut through two branches of purple ore similar to that broken at the 70; one branch about 10 in. and the other about 9 in. wide, sometimes nearly solid ore, and then a mixture of ore and quartz. Finding the ore here is in my opinion very encouraging, as no ore was seen in the 70 until 20 fms. north of this point. These two drivages will be pushed on north as fast as possible. On the eastern lode we have driven 9 to 10 ft., and the lode seems to improve. In the meantime the shaftmen will make all necessary preparations for starting to sink towards the 100. The 70 north has been driven two fathoms and cross cut 10 feet towards Waterhouse's shaft; the lode here is also 1 ft. wide, spotted with grey, purple, and yellow ore. This end is 75 fms. north of Morphett's, and the lode has also undergone a change from the level above. A bore hole has been put through in the winze from the 60 to the 70. This has drained the winze, and enabled us to make double the progress in effecting a communication. The cross cut driving at the 63, towards Peacock's air-shaft is now in a line under the shaft, and the shaft is now within 10 ft. of the level. When communicated we shall drive north and south at the 60, on the lode from which we are now breaking some good stones of grey, purple, and yellow ore in the shaft. Our deep exploratory works are showing features and indications very encouraging indeed. But the cross cut at Bunce's, which is now under the old deposit of ore, shows no indication of lode or ore. The pitches in the old part of the mine are not so productive as usual, some of them getting exhausted. Our engines, pitwork, and surface machinery are in good order and working well.

YORKE PENINSULA.—The directors have received advices from the committee of inspection at Adelaide, with report from the Kurilla Mine, to Dec. 25 last. The following are extracts from Capt. Anthony's report:—Kurilla Lode: At the 45, east of Hall's shaft, now about 40 fms. from the shaft, the lode is now 5 ft. wide, composed of quartz, iron pyrites, and copper ore, with the interstices filled up with black killas. From present appearances, and the fact that we are just entering the run of ore ground first met with at the 35, I am hopeful of getting into a paying lode at any time. At the 35 east I am sinking a winze to still further ventilate the 45, and facilitate the stoping of the lode, which from such winze eastward I anticipate will be worked on tribute, as is the ground in the back of the 35 in the same run. The total number of tributers at work on the Kurilla lode is 23, at an average of 6s. 3d in 1l.—Anthony's Lode: I have driven east from the cross-cut about 2 fms., where a division occurs in the slide, and I think that the south wall, so forming, will prove to be that of Anthony's lode. The intersection of this slide has drained the whole of the 15 on both the Kurilla and Anthony's lodes. I have set the back of the cross-cut at 10s. in 1l. to two men. The place in the bottom of the cross-cut from which the blocks of yellow ore came must remain in abeyance until it is drained from some deeper point—say, the 35 or 45. I may say that if this slide keeps its present bearing and dip the 45, east of Hall's shaft, must naturally intersect it, and probably unwater the hauling shaft, which must shortly be sunk below the 35. Great advantage will arise from this.—Morphett's Lode: The shaft is about 21 fms. deep. The last taking down of the lode was a slight improvement on the former, and especially as it is assuming a more settled character. This lode promises to be far more regular in its yield than the Kurilla lode. There are 12 men working on tribute at an average of 8s. 8d. in 1l.—Ore Returns: Since my last report, Nov. 27, I have dispatched for shipment, per St. Vincent, 92 tons of 20¾ per cent. ore by assay, worth (say) 1100l. net; on hand (say) 110 tons of 16 per cent. ore, value 85l. net; dredge ore (say) 240 tons of 5 per cent. ore, worth (say) 450l. net. Total value approximately of ore on hand 1300l. The committee report that they proposed to lay out an addition to the Aberdeen Township on both sides of the extension of the line of railway. The operations in progress at the Burra Burra Mine continue to indicate more and more clearly that the lodes in the mine run directly towards this company's adjoining Bon Accord property.

PORT PHILLIP AND COLONIAL (Gold).—December 27: Quantity of quartz crushed for the four weeks ending Dec. 6, 1923 tons; pyrites treated, 20 tons; total gold obtained, 294 ozs. 16 dwts., or an average per ton of 6 dwts. 4½ grs. Receipts, 3541l. 16s. 6d.; payments (including 218l. paid for firewood, &c.), 2310l. 16s. 4d.; profit, 1231l. 0s. 2d., which, added to last month's balance of 1833l. 2s. 6d., made an available balance of 3064l. 2s. 8d. The amount divided between the two companies was 1200l., the Port Phillip Company's proportion of which is 780l. The balance of 1864l. 2s. 8d. was carried forward to next month's account. Remittance, 750l.

— Telegram, dated Melbourne, Feb. 12; Month ending Jan. 31, yield per ton 5 dwts. 13 grs.; western reef, No. 10 level, 4 dwts. 8 grs. per ton. Profit, 766l.

ENGLISH AND AUSTRALIAN (Copper).—Port Adelaide, Dec. 30: The stock of coals at Port Adelaide was 2569 tons. One smelting furnace, four roasting furnaces, and one refining were at work at Port Adelaide. At the Newcastle Works the smelting operations were proceeding satisfactorily. Since the date of last advice 120 tons of copper had been shipped.

SCOTTISH AUSTRALIAN.—The directors have advices dated Dec. 23, with reports from the Lambton Colliery to Dec. 21: The sales of coal for November, during which trade generally was very slack, amounted to 9699 tons. The sales for the first 21 days of December amounted to 10,163 tons.

AUSTRALIAN CENTRAL (Gold).—Capt. Angwin, Dec. 26: Since my last report we have driven the air drive a considerable distance, and the mine is now well ventilated. We have driven the main upper level about 50 ft., principally through black clay. A ridge of hard reef came across the gutter during the time we were passing through the black clay, which prevented us getting the usual amount of gold. I am now happy to inform you that the dead work is finished. During the last week we have passed through a splendid stope of wash dirt about 20 ft., and likely to continue with gold visible in the face, and from present appearances likely to pay well. To-morrow we shall open two cross-cuts on the wash I have now in sight, which with the main drive will make three faces in good payable wash dirt. I do not see anything to hinder us at the present time from getting good gold, and the mine paying dividends.

ANGLO-AUSTRALIAN (Gold).—Anglo Mine, Dec. 26: I have the honour to report progress since the 27th ult. We have extended the south drive, on the eastern lode, in the 320 ft. level, 50 ft.; distance from cross-cut, 100 ft. We continued driving on the cross lode to 64 ft. from cross-cut, when the eastern lode appeared on the south side of the drive; in the 70 ft. we had 4 ft. of stone in the bottom of the drive. It has gradually got smaller. In the present end it is 18 in. thick, and rising to the south. This is merely a block of stone; and, as all such blocks have a northern dip, by driving south we shall pass through them. We have passed over a large block of stone, but I have not seen any any gold in it except for the last 10 ft. We have crushed 47 tons of flookan and stone—result, 3 ozs. retorted gold. At 95 ft. the cross lode is taking its regular course again; having had the two lodes in the drive, and they making a large flookan, I crushed it to ascertain if it contained flue gold; otherwise I should not have crushed half the quantity. We are now getting into a favourable channel of ground for quartz. I have no doubt there is stone at no great distance above and below our drive. The air is getting very weak in the end. I shall erect a water-blast to force air into the end next week, and having sufficient pipes for the present it will not cost much for a time. I have sold the right to wash some old tailings to Chinamen, for the sum of 5l., as they were of no value to the company. Tributers in No. 1 cutting have been doing dead work all the month; they are now in the stone, and will commence breaking at once. On the 29th ult. I let the old stopes in prospecting shaft to two men, for three months, the company to receive 50 per cent., with the usual conditions They have been doing dead work most of the month.

EAST GLOGFAWR—SPECIAL REPORT.

Feb. 12.—According to your request I have much pleasure in forwarding you my report on this property, which is situate to the east of Glogfawr, the richest of the Lisburne mines, and which is at present (I mean Glogfawr) returning from 1200l. to 1300l. worth of rich silver-lead ore monthly. According to the plans presented to me, the 12 fm. level under adit has been driven into this grant, whilst the 20 and 45 fm. levels have been extended each of them to within a few yards of the boundary. It will be quite unnecessary for me to state that these levels have passed through the richest courses of lead ore discovered in the Glogfawr grant, and they have each and all of them been left rich in their respective forebreasts. The ground in the Derwfarne, which comprises a total acreage of 442 acres 0 roods 20 perches, where the Glogfawr lode enters it, rises very rapidly, giving very great facilities for driving in the adit level cross-cuts, so as to reach the vein at depths varying from 20 to 100 fathoms. The first of these depths can be reached by driving an adit cross-cut to tap the lode at the 20 from surface, by driving 40 fms., and at a cost of about 300l. I fully believe that the lode will be found very productive and profitable at this point, as the lode at Glogfawr has been productive and worked to the very surface. If this opinion, which is based on 36 years of experience in Cardiganshire mining, and having been connected with all the Lisburne mines, it would give ample time for the bringing in the deeper levels, as might be thought most advantageous for the effectual working of this property, and the ground over these adits would last at all events from 12 to 15 years provided every exertion was put forward to work it away as the ground was laid open. As machinery would have to be erected for the manipulation and the dressing of the ore, it should be of the very first class, and should be of ample power to put the mine to a depth of not less than 200 fathoms under the adit level, as well as providing ample drawing power to provide for the cleaning of all the stuff broken at the same depth. There is an abundance of water-power now ready for any machinery that may be wanted, as not only the water that now supplies the Glogfawr machinery can be obtained, but the River Marchnant flows in the valley, and at the foot of the site of the intended machinery. A cross-cut above the lode leading to the farm has been driven in and cut a splendid lode 4 ft. wide, and there are other lodes in the grant which will require attention when the trials here pointed out shall have been made and effectually proved. There is a tack-note granted, dated April 17, 1876, for two years at 1-14th royalty, giving power to get a lease at the expiration for not less than 21 years. I do not look upon this as a speculative property, but as a certainty, and I believe that when it has been fully laid open a profit of 10,000l. per annum can be obtained from it, and, in conclusion, I have not seen a more desirable grant than this is in any county of Wales, and any one embarking in it may look forward with confidence that the results here stated will continue for the next 50 years or more.—ABSALOM FRANCIS.

ECHOES FROM THE MINING MARKET.

Another dull week has been experienced in mining matters, and prices of shares remain, with few exceptions, very heavy. This want of buoyancy is, however, natural; for other markets exhibit the same stagnation, the trade of the country, contrary to more favourable anticipations, keeping in a very depressed condition. We are scarcely likely to see a permanent rally in the stock markets until affairs in the East have assumed a more settled character, whilst for better general business we must wait for a revival of trade.

The few exceptions to the general inactivity have occurred in the lead and foreign mine department; such shares as East Van, Roman Gravels, Great Laxey, Rookhope, Glyn, and Van Consols in the former, and Flagstaff, Eberhard, Exchequer, and Richmond in the latter, having attracted a fair amount of attention. There appear to be pretty general hopes amongst the Flagstaff shareholders of a much better future for their property, and should the expected report confirm the statements that have been made as to the actual profits now being realised in Utah the shares must see a much higher price than the present one of 3⅛ to 3¼.

Of other shares, Glenroy, Pennerley, North Laxey, Derwent, Grenville, Javali, Aberdaunant, and Parys Mountain have been offered, and all close weaker. We note a better enquiry for Herodsfoot; in fact, the shares are difficult to obtain at the quoted prices, there being only buying orders on the market. There have been some buyers also of such low-priced shares as Cathedral, Penstruthal, Pestarena, and Bedford United, and mostly for investment, which is a healthy sign. In colliery and iron shares there is no change whatever to record so far as prices are concerned, but a rather better demand has existed for Cakemore and Cardiff and Swansea. Other shares have for the most part been offered. We are informed that the Park seam has been cut in Chapel House at a depth of 388 yards. The seam is 5 ft. 10 in. thick. A few transactions have taken place in West Cumberlands at 8½ to 9.

The directors of the Sweetland Creek Company, at the close of the special meeting, held on Feb. 1, offered by cable the entire property to their manager, Mr. M'Lean, for $15,000, plus the credit balance on Dec. 2. To this Mr. M'Lean replied offering $15,000, *minus* the credit balance, which latter offer, as will be seen below, has been, or will be, accepted. Within the last few days a letter has been received from Mr. M'Lean referring to his previous offer to give "$10,000, or as much as anyone," and stating that the profits of the company could not now be worth the attention of an incorporated or large company, but that being familiar with it, and by biding his time, and waiting for cheaper water and labour, he might make a profit above his bid. These are Mr. M'Lean's reasons for offering to purchase the property. The directors, in accordance with the authority vested in them at the meeting on the 1st inst., have decided that the interests of the shareholders will be best served by accepting Mr. M'Lean's final offer of $15,000, or (say) 3000l., equal to 4s. per share on the 15,000 shares. An extraordinary meeting will be held on the 20th inst. to pass the necessary resolutions to wind up voluntarily.

The resolutions passed at the special meeting of the Grenville shareholders on the 6th inst. are to be confirmed on Thursday next, and at the same time a new resolution will be submitted to alter rule No. 1 of the rules and regulations of the company, so that instead of the committee consisting of not *more* than three persons it will consist of not *less* than three. After the special meeting the usual quarterly general meeting will be held when a call will be made. The accounts have been issued, and show an equilibrium between liabilities and assets. In consequence of the water being in the mine the usual estimates are not given, but what with loss of returns and the decision to put up more capable pumping machinery a heavier call than usual must be required. The assets, comprising credit balance of 258l. 12s. 1d. and unpaid calls 62l. 8s. 9d., amount to 321l. 0s. 10d, and the liabilities (all for dues) 319l. 10s. 1d. The costs during the quarter have amounted to 276l., and London expenses to 32l. Sales of ore have realised 228l.; discounts 40l., so the loss has been about 460l. on the three months: 613l. has been received for calls.

The new crusher has fairly gone to work at West Chiverton, and the pulverised stuff now comes direct from the crusher into Capt. Southey's excellent jiggers without any manual labour whatever. With such economical dressing appliances West Chiverton will, doubtless, be able ere long to sell more produce, and, therefore, give greater profits. At the meeting, on Monday, Capt. Southey was much complimented by practical authorities present upon his great improvements.

North Busy United is progressing far better than many expect. There is a fine lode for tin in the deep end driving to the old North Busy Mine. When last valued it was worth 30l. per fathom. There are 35 fms. of backs here whole to surface. We understand that at the meeting shortly to be held a dividend of not less than 10s. per share will be given. Four ends are being driven, whilst the only stoping is by two men, and there are hundreds of fathoms of good lode laid open available when a better price can be obtained for copper.

JAMES H. CROFTS.

WEST WHEAL SETON (Copper), in 600 shares, is now again in a sound financial position. This Journal showed a short time since that the copper ores sold at the Cornwall Ticketing for the quarter ending December 30 last amounted to the sum of 3874l. 11s. 6d., which has placed the mine the third best on the list of the copper mines. The mine undeniably is being worked in a thorough miner-like manner, and the adventurers are now in a position to buy materials for cash. The object of wiping off the balance lately was to do that, and it is said by doing so the adventurers will be enabled to save 10 per cent. less in price, and after that get 2½ discount off. They have also been importing their own coals, and Mr. Basset, the lord, has, we are glad to learn, reduced his dues to 1-30th. Any improvement of this kind certainly cause a great rise in the price of shares, which are now 32l. 10s. to 37l. 10s., and scarce shares. The mine, which is most extensive, had for a long series of years paid handsome dividends, and had it not been for a few drawbacks of late would have continued to have paid dividends to the present time.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains:—Original Correspondence: A New System of Sinking at the Cannock and Huntington Colliery; Coal Mining Explorations in Durham; the South Staffordshire Collieries and Coal Trade; Explosions and Fires in Coal Mines (M. E. Teale); Mining Explosives and their Cost; Organisation of the Mining Interest; Outlines of Geology—No. III; Science in its Application to Mining; the Richmond Mining Company; Cardiganshire Mines, A.D. 1877—No. III (A. Francis); Rose United Mines (R. Symons); Low-Priced Mining Shares (J. R. Pyke); Mining Grants; New Consols Silver Works; Penstruthals and Cathedrals; West Maria and Fortescue (W. Penrudd); Wheal Grenville Mine—Anthracen—the Life of William Fairbairn—the Paris School of Mines—Extension of the Australian Gold Field—Foreign Mining and Metallurgy—Blake's New Patent Stone-Breaker (*illustrated*)—Foreign Mines—Meetings of Blue Tent, Mwyndy, Wheal Uny, Argentine, Elgar, Tallybont, and other companies.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, FEB. 16, 1877.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde.	2 16 3-	2 16 4
,, Scotch, all No. 1 ...	2 17 6-	3 6 0
Bars, Welsh, f.o.b. Wales	6 0 0-	—
,, ,, in London.	6 12 6-	6 15 0
,, Stafford., ,, .	7 15 0-	8 15 0
,, in Tyne or Tees ...	6 2 6-	6 7 6
,, Swedish, London ..	10 10 0-	11 0 0
Rails, Welsh, at works..	5 10 0-	—
Railway chairs	— -	—
,, spikes	— -	—
Sheets, Staff., in London	9 5 0-	9 10 0
Plates, Staff., in London	9 5 0-	—
Hoops, Staff.	7 15 0-	8 15 0
Nail rods, Staff. in Lon.	7 12 6-	8 2 6
STEEL.		
English, spring	14 0 0-	23 0 0
,, cast	25 0 0-	45 0 0
Swedish, keg.....	17 0 0-	—
,, fag. ham.	17 10 0-	18 10 0
LEAD.		
English, pig, common	21 5 0-	21 10 0
,, ,, L.B. nom.	21 15 0-	—
,, ,, W.B.	22 5 0-	nom.
,, sheet and bar..	22 15 0-	—
,, pipe	23 0 0-	—
,, red	23 10 0-	—
,, white	28 0 0-	29 10 0
,, patent shot ..	24 10 0-	24 15 0
Spanish.....	20 17 6-	—
QUICKSILVER.		
Flasks of 75 lbs., ware.	8 0 0-	—
SPELTER.		
Silesian or Rhenish ..	20 15 0-	—
English, Swansea.....	22 10 0-	—
Sheet zinc	24 10 0-	26 0 0

TIN.	£ s. d.	£ s. d.
English, ingot, f.o.b...	75 0 0-	76 0 0
,, bars ,, ...	76 0 0-	77 0 0
,, refined.....	77 10 0-	78 0 0
Australian	71 0 0-	—
Banca	74 0 0-	—
Straits	72 0 0-	—
COPPER.		
Tough cake and ingot.	78 0 0-	79 0 0
Best selected	79 0 0-	80 0 0
Sheets and sheathing.	83 0 0-	84 0 0
Flat Bottoms	87 0 0-	88 0 0
Wallaroo	79 0 0-	—
Burra, or P.C.C.	78 0 0-	—
Other brands	76 0 0-	—
Chili bars, g.o.b.....	71 5 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£112 0	0
Other alloys	£120 0 0-	140 0 0
BRASS.		
Wire	8½d.-	9½d.
Tubes.....	10½ -	—
Sheets	9 -	9½
Yel. met. sheath. & sheets.	7¼ -	8
Nails composition.....	8¼ -	9¼

TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 2 6-	1 3 6
,, 2nd quality ...	1 1 0-	1 1 6
Coke, 1st quality	0 19 6-	—
,, 2nd quality	0 18 6-	—
Black .....per ton	16 0 0-	16 10 0
Canada, Staff. or Gla., at Liverpool	12 0 0-	13 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The markets are now becoming so variable, and are subject to such sudden fluctuations, that it is almost impossible to follow them with advantage. For a day or two they will appear quite buoyant, and assume an upward tendency, and then the buying will suddenly cease, and down come prices again as rapidly as they advanced. It is most extraordinary, and would be perfectly unaccountable, were it not that we are passing through a momentous and critical period, and it requires the keenest perception to know which is the correct course to steer, and the greatest foresight is necessary to avoid making heavy losses, or being embarrassed with unfavourable contracts. One thing is certain, this is not the time for weak and timid men to operate. The effect of the long depression, and the bad results from high wages, the scandalous repudiations of foreign Governments, and the losses incurred by scheming directors, and in various other things, have so utterly disorganised the commerce of the world, and wholly destroyed the confidence of the British public, that there is no dependence upon anything from one day to another, and everything, in fact, seems to be in a very uncertain and transient state.

As long as the present unsettled feeling continues perhaps the least people do the better, for they will save themselves at any rate from loss by acting the cautious part, and be infinitely better prepared for action when the markets are restored to a thoroughly safe and sound condition, and their patience will, no doubt, be rewarded in the end. The time will come, and it is hoped that it is not far distant, when business may be transacted with some degree of security, and a good prospect of obtaining a remunerative return, but at present commercial and political affairs are so enveloped in mystery that what the next move may be it is impossible to divine. But although appearances at the moment cannot be said to be strikingly promising, yet at the same time there is no occasion to be unduly depressed, that a general resuscitation will hereafter take place is as perfectly certain as history repeats itself, and the least tendency towards improved business would, probably, soon be followed by improved prices. Although stocks are heavy, yet if money keeps cheap, and peace is not disturbed, holders need not be apprehensive of the future.

COPPER.—On Saturday the market for Chili bars remained steady, and the price realised was 71*l.*, closing buyers thereat; on the other hand, Wallaroo was weaker, and business was done at 81*l.* 10s., and Burra 79*l.* On Monday the market moved up for Chili bars and went down for Australian; the former realised 71*l.* 10s., while the latter fell to 81*l.* for Wallaroo, and 78*l.* 10s. for Burra. On Tuesday the feeling improved for Chili, and 72*l.* was realised for both cash and prompt parcels, whereas Wallaroo continued to decline, and 80*l.* 10s. cash was accepted. On Wednesday prices did not alter very much for Chili, although they tended in buyers' favour. Wallaroo also was easier, and at 80*l.* sales were made. The reason of the depreciation in Wallaroo was caused by another public sale being announced of this brand, consisting of 400 tons to follow on the same day—the 20th inst.—as that of Messrs. James and Shakspeare's. The entire quantity for sale on that day will, therefore, amount to about 1000 tons, and until these sales are over the market will be kept in a state of suspense, and no very large amount of business is likely to be done. On Thursday the price of Chili bars receded to 71*l.* 10s. cash, sellers, but there was business in forward prompts at 71*l.* 10s. to 71. 15s., and 72*l.* three months. Australian continued its downward course, Wallaroo being sold for March delivery at 79*l.*; Burra quoted 78*l.* To day the market has been rather unsettled, and the cash price of Chili bars is 71*l.* 5s. and 71*l.* 10s., paid for one month, with several buyers for forward bars and the same price, but sellers are scarce and indisposed to take so low a price, 72*l.* being nearer their price for three months prompt. A sale of Wallaroo has taken place at 79*l.*, and Banca continues quoted at 78*l.* By an oversight for which we apologise, the prices last week of Chili bars and Burra was not corrected.

IRON.—The state of this market has not undergone any special change, neither is there any appearance of any general revival in the demand, and prices for the most part continue easy. The present prices are moderate, and no particular complaints are made on this ground; but the trade of the country is unsatisfactory, and necessitates exceptionally low prices so as to stimulate the consumption and create an increased demand. The cost of production must be reduced, the miners will have to work for a lower rate of rate of wages, and the ironworkers will have also to be content with less, and for some time to come men cannot expect, nor will they be getting, the high rate of wages of recent years; but they need not be sufferers on that account if they are willing to work a little harder, and make up the former amount by extra labour, and in so doing they will not only benefit themselves, but confer a like benefit upon the whole community. Let industry, and not idleness, be their maxim. High wages proved a curse instead of a blessing to the men, for it demoralised the majority of them, and caused them to live most unnatural lives. Nothing can be more derogatory to an able-bodied man than for him to employ half his time in work and waste the other half in idleness. There is no good to be gained in that way, either for himself or others, and it is to be hoped that until greater morality exists amongst the men high wages will not be given. All manufacturing trades have been greatly disorganised for a long while, simply because our colliers, miners, and ironworkers felt themselves masters of the situation, and demanded excessive wages; and what is the result but the annihilation of their own interests and ruination to many of their employers.

Commerce has now drifted into such a low condition that it will involve great privations and sacrifice on the part of both employers and employed before it can be restored to a healthy and flourishing state. When trade is prosperous additional wages may fairly be obtained, but the mischief is when the men shorten the hours of labour to enable them to gain the extra wage, and in maintaining these rates beyond a reasonable time. If the men are desirous of availing themselves of a favourable turn in business, and quite naturally enough that they should wish to participate to a moderate extent, they must ever be equally ready to yield as soon as trade begins to slacken, and not go diametrically opposite to the requirements of the times, and because they happen to have achieved a certain position decline to conform to the required concession. Had the men expressed their willingness earlier to accept reduced wages they would have been considerable gainers. Besides the pleasure of constant employment their families would have been better provided for; but as it is they will have to wait before renewed activity sets in, and they will have to be brought down to a lower level; and the longer they are in submitting the worse for them, otherwise Belgium will continue to carry off a great deal of the work which ought to be turned out here. While wages keep up here Belgium will have the advantage of orders, and the English will suffer accordingly, and why? Simply because men over-estimate their work in this country; their neighbours, however, are teaching them a lesson which it is hoped they will profit by, and raise them in the scale of society by their strict adherence to diligence, economy, and sobriety. Scotch pigs have slightly varied, and are now quoted 56s. 3d. to 56s. 4d.

SHIPMENTS.

Week ending Feb. 12, 1876 ..... Tons	7,994
Week ending Feb. 10, 1877	6,183
Decrease	1811
Total decrease for 1877	6,081
Imports of Middlesborough pig-iron into Grangemouth:—	
Week ending Feb. 10, 1877 ..... Tons	7,331
Week ending Feb. 12, 1876	2,120
Increase	5,211
Total increase for 1877	10,782

LEAD.—The quotations for the week have ranged chiefly between 21*l.* 5s. to 21*l.* 15s. for English pig, and Spanish soft has been sold at 20*l.* 17s. 6d.

SPELTER.—Silesian has receded from 21*l.* to 20*l.* 15s. Zinc at public sale on Thursday was sold at 24*l.* 15s., being same price as last.

QUICKSILVER on Monday declined to 7*l.* 15s., and the following day 7*l.* 10s. was taken for a very large quantity, but on Thursday 7*l.* 15s. was refused, and holders advanced their price again to 8*l.* per bottle.

TIN-PLATES.—There are no signs of improvement in the demand, and sellers are eager to effect sales, even at lower rates than formerly. The market is in a very unsatisfactory condition, and the keen competition that exists for orders cannot fail to have a depreciatory effect on prices.

TIN.—On Saturday the market was firmer, Straits advanced to 73*l.* 10s., and Australian to 72*l.*, and 72*l.* 10s. forward. On Monday the firmness of prices continued, and a good business resulted. On Tuesday Straits was sold at 73*l.* 15s. to 74*l.*; Australian, 72*l.*, and 72*l.* 10s. forward. On Wednesday the market began to droop, and Straits changed hands at 73*l.* 10s. On Thursday lower prices were taken, and Straits sold at 72*l.* 10s. to 73*l.*; Australian, 71*l.* 10s.; English, 75*l.* to 76*l.* To-day the market opened flat, with sellers of Straits at 72*l.* to 72*l.* 5s., and Australian at 71*l.*, at which business has been effected. There does not appear to be much firmness at present in prices, and at the close of the market the tendency seemed to be rather downward than otherwise.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening. Very little business has been done on the Glasgow Exchange this week. On Monday the market opened firm, only one transaction in warrants was reported. The price was nominally 56s. 9d. Tuesday and Wednesday's markets were inanimate; yesterday the market opened with buyers at 56s. 7d., and a moderate business was transacted, closing slightly easier. This morning the market opened with buyers at 56s. 6d., but the price receded this afternoon, closing 56s. 3d. buyers, a loss on the week of 3d. per ton. Several brands of makers' iron are 6d. to 1s. higher than last week. We quote No. 1 Gartsherrie, 63s. 6d.; Coltness, 66s. 6d.; Calder 64s.; Langloan, 64s.; Summerlee, 62s.; Monkland, 58s., f.o.b. Glasgow; Glengarnock, 62s.; Eglington, 68s., f.o.b. Ardrossan; Shotts, 68s. 6d., f.o.b. Leith; Kenniel, 58s., f.o.b. Bo'ness. Our market is quiet, without any notable change. The events of the week in the iron trade, are the reduction by the Cannock Chase owners of 1s. per ton in the price of their coal, and the annual meeting of the South Staffordshire Ironmasters' Association, which was held yesterday. The meeting at Barrow on Monday was quiet, but a healthy tone prevades the trade of the Nort west Coast district. More activity prevails at the hematite mines about Whitehaven, and preparations are being made by several of the principal owners to still further augment the output of their mines. At Middlesborough on Tuesday the animation which has characterised this market for some weeks past was less apparent, and prices of the raw material were fractionally weaker. The manufacturers report themselves in a less favourable position with regard to orders; nevertheless it is generally thought that the lull is transient, and that the renewed activity predicted for this district is now not far ahead. At Wolverhampton on Wednesday, the market for common pig iron exhibited a drooping tendency, but the better descriptions of native pigs maintain their price, and several sales took place. In finished iron more business was done than at the previous weekly meeting, and prices were well maintained, especially for nail-rods. At Birmingham yesterday the reduction of Cannock Chase coal was discussed, and its effect on the iron making coal of the Black Country district was variously estimated. The market was quiet. Common pigs easier. Best brands well maintained. In finished iron a moderate business was done at late rates. The annual meeting of the Ironmasters' Association was held at the Queen's Hotel in the afternoon, Mr J. P. Hunt in the chair. The three blast-furnaces belonging to the noble Earl Granville, at the Shelton Works, are being blown out this week. Our readers are aware that his Lordship has another smelting establishment at Etruria, and we believe it is intended to make additions to the Etruria group equal to the number of furnaces blown out at Shelton. Already the foundations are laid for two additional furnaces at Etruria, which will be constructed of larger capacity, and with all modern improvements, thus concentrating the whole of his Lordship's extensive iron smelting establishments at Etruria.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, Feb. 15)—COPPER: Arrivals here during the fortnight of West Coast S.A. produce: Liguria, from Valparaiso, with 835 tons bars and 50 tons ingots; Laira, from Valparaiso, with 50 tons bars; Silurian, from Pan de Azucar, with 700 tons ores.—At Swansea: Corinna, from Gatica, with 715 tons ore and 10 tons barilla; Scout, from Totoralillo, with 666 tons regulus; Atlantic, from Carrizal, with 725 tons regulus. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	864	9,712	2	—
Swansea.....	1362	2164	2,174	—	10
Total	1362	3028	11,886	2	10

Representing about 13,530 tons fine copper, against 14,191 tons Jan. 31; 11,778 tons Feb. 15, 1876; 12,247 tons Feb. 15, 1875; 21,900 tons Feb. 15, 1874. Stock of Chili copper in Havre, 12,415 tons fine, against 1050 tons Feb. 15, 1876; stock of Chili copper afloat and chartered for to date, 13,000 tons fine, against 13,737 tons Feb. 15, 1876; stock of foreign copper in London, chiefly Australian, 3181 tons fine, against 5247 tons Feb. 15, 1876.

Messrs. SANFORD and BIRD—COPPER: Chili bars more enquired for and slightly higher in price. Australian lower. A further sale is announced for the 20th inst. of 400 tons Wallaroo and 50 tons of Lake Superior.——TIN has recovered somewhat from its depression, but closes dull and inactive.——TIN-PLATES show no improvement, and prices still rule in buyers' favour.——QUICKSILVER.—A considerable business has been done in Spanish at 7*l.* 10s. and 7*l.* 15s.

Messrs. FRY, JAMES and Co.—COPPER has been heavy this month, to the present time, and lower prices have been accepted for the business done. The importers of Wallaroo announce 615 tons for sale by auction on Feb. 20, and other holders announce for sale, also by auction, on same day, 400 tons of Wallaroo and 50 tons Lake Superior. These announcements have caused increased depression.——IRON is still dull, but without any material change in value.——TIN has had some slight fluctuations, but mostly dulness has prevailed, and lower prices are recognised to-day.——SPELTER is very little enquired for, and value rather lower.——LEAD also is very quiet.——TIN-PLATES in moderate demand at minimum rates.

The settlement of the fortnightly account has occupied the chief attention of the dealers in the MINING SHARE MARKET this week; and business, as usual of late, has been dull and restricted, and with nominal prices. Indeed, the state of the Share Market for some time past, and at present, may be very briefly described. The public, as a rule, never buy when things are low, and ought to be bought; and dealers, in the absence of general business, do not care to be constantly adding to their stocks, however good they may be, consequently, when a few sellers appear, the usual quotations of prices cannot always be realised, and the depression is increased; on the other hand, when any temporary demand arises it is not always possible to get shares at the quotations given, thus dissatisfaction and double disappointments often occur in regard to quotations, which cannot well be remedied.

Tin is said to be slightly firmer, and there is a pretty general opinion among miners that it will be better in a few months, when the Australian supplies are expected to fall off; nevertheless there is no change at present in tin shares. Dolcoath are quoted 35 to 37½; a new lode has been cut by a cross-cut at the bottom of the mine; it is what miners call a slab of tin, and is very rich. The discovery may become of great importance to all concerned. Carn Brea, 35 to 37½; Cook's Kitchen, 3 to 3½; East Pool, 10½ to 11½; South Condurrow, 6 to 6½; South Crofty, 17 to 18; South Frances, 15s. to 20s.; Tincroft, 19 to 20; West Basset, 4 to 4½. Wheal Grenville, 7s. to 9s.; a special general meeting is to be held on the 22nd to confirm or otherwise the resolution passed at the meeting on the 9th in reference to the new engine. The accounts to be presented at an ordinary general meeting to be held on the same day show assets over liabilities of 1*l.* 10s. 9d., charging up the costs to Dec. 30. The water is out of the mine 2 fms. below the 130, and by Monday it is expected it will be out to the 140. The estimated costs payable next week will be about 800*l.*, against which there will be a few tons of tin.

Wheal Uny, 30s. to 40s.; at the quarterly meeting, held on Tuesday, the accounts showed a loss on three months working of 855*l.*, and a debit balance of 874*l.*, which was carried forward. Wheal Kitty (St. Agnes), 3 to 3½; West Frances, 4½ to 5. Wheal Agar, 3 to 3½; the tin raised from the shaft this month has, we understand, realised over 300*l.* Lode quite 20 ft. wide.

In COPPER MINES, New Cook's Kitchen shares have been somewhat in demand at 40s. to 45s.; in driving the bottom level (the 125) a good lode of copper has been met with, worth 3 to 4 tons of good ore per fathom. It is said to be the same lode that has made such large returns of copper in East Pool, South Crofty, and Tincroft, and as the lode is now entering the granite good results are expected. Wheal Crebor, 3 to 3½; no change here. Prince of Wales, 2s. 6d. to 5s.; the 45 end west has improved, and is now worth 8*l.* per fathom. On the whole, the agent writes, the mine is more promising than for many months past. Bedford Un... to 20s.; a very important improvement has taken place ... lode in the 187 west having come into copper ore, worth 5... 16*l.* to 18*l.* per fathom, and improving. The 127 end is also ... ing up well, and the prospects for the future are more ... Devon Great Consols, 4 to 4½; Hingston Down, 10s. to 15... struthal, 11s. to 13s.; West Tolgus, 60 to 62; Parys M... 10s. to 12s.

Among LEAD MINES Roman Gravels are quoted 13½ to 14... 106, south of flat-rod shaft, will soon be into the ore ground ... the 95 south. The 106 north is yielding good stones of ore, ... proving. Tankerville, 8½ to 8¾; the sale of ore—100 tons ... 1512*l.* 10s. West Tankerville, 1⅝ to 1¾; Great Laxey, 5... North Laxey, 17s. to 19s. Glenroys have been largely de... and leave off 1½ to 2. Rookhope, 18s. to 20s.; Van, 36 to 38... Van, 7 to 7½; Van Consols, 2 to 2¼; Glyn, 2 to 2¼. Comb... 12s. 6d. to 15s.; in the 15 west the lode, 5 ft. west of the ... course, is 7 ft. wide, good saving work for silver-lead, and ... away from the cross-course the agent anticipates a profitab... Aberdaunant, ⅛ to ¾; Cargoll, 5 to 5½; Leadhills, 6¼ to 6½; ... well, 1 to 1¼; Pennerley, 15s. to 20s.; Clementina, 30 to 40... Craven Moor, 12½ to 13½; Bodidris, 1⅛ to 1¼; Llanrwst, ... Gorsedd and Merllyn, 4 to 5; the lode is reported worth 5... lead per ton. New South Merllyn, 1½ to 2; a discovery of ... announced here. Pennant, 5½ to 6½; Grogwinion, 5 to 5½, cr... Red Rock, 2¼ to 2¾; South Cwmystwith, 3 to 3½; St. Hu... 3½; Wye Valley, 5 to 6; West Wye Valley, 3½ to 4; West Clar... 18 to 19.

Among FOREIGN MINES Argentine are quieter, 5½ to 5¾; Bl... 3 to 3½; Cendes of Chili, 4⅜ to 5¼. Chontales, 7s. to 9s.; the ... from here show a gold return of 294*l.*, and a loss on the ... 215*l.* 15s. Javali, 9s. to 11s.; the loss here is 222*l.*; gold ... 286 ozs., valued at 865*l.* Santa Barbara, 2⅜ to 2⅝; the a ... a profit of 649*l.* 9s. 4d. for the month of December. The ... turns were 1578*l.* 0s. 6d. The 15 new stamps, which will ... the number at work to 54, will go to work this month. ... ⅜ to ⅝. Eberhardt and Aurora, 8½ to 9; the falling off refers ... new ore body only. Exchequer, 1¾ to 2; Flagstaff, 3⅛ to 3... tino and Bolivia, 1½ to 1¾; I.X.L., ⅝ to 1; New Zealand K... 2¾ to 3; New Quebrada, 3½ to 4; Pestarena, 3s. to 5s.; R... 6¾ to 7.

The Market for Mine Shares on the Stock Exchange during ... week has been without animation, and quotations are ... nominal. In American mines fewer transactions have ... corded; the feature in this department has been a renewed ... for Flagstaff shares and a decline in Eberhardt. The business ... ever, continues upon a limited scale. It is understood that ... has been considerable enquiry for the shares in the Virneberg ... Mining Company, to the formation of which, with a ca... 100,000*l.*, in shares of 2*l.* each, reference was made in last ... Journal, and no doubt is entertained that the required capital ... be raised. The list of applications for shares will, it is ... shortly closed.

St. John del Rey, 305 to 315; the latest advices, Morro ... Jan. 17, report a cessation of the heavy and almost continuous ... which had made the roads in many districts impassable, and ... serious interruption to the public affairs on the railway fr... metropolis into Minas Geraes. A number of earth slips had occ... but the company's water-courses had conveyed the water ... through the establishment without the least failure. Traffic ... been resumed on the Mattosinhos line, and timber was ... ceived therefrom. The return for December, after deducting ... of melting into bars, was 41,266 ozs., of the value of 15,990*l.* 6s. ... and the cost 7216*l.* 7s. 7d., leaving a profit on the working for ... cember of 8774*l.* 2s. 4d. The apparently higher cost as com... with November arises because the exchange is 1d. per milreis ... the cost of labour is a little larger, and some other charges ... at the end of the year. In round numbers, the cost is 488*l.* higher ... the average monthly cost during the past year, and the pr... 550*l.* greater than in November. A second strone-breaker has ... erected; the two are capable of breaking nearly the whole ... mineral required for the stamps. In 14 hours they brok... wagons of stuff, though it is inferred that they are not doing ... maximum work.

Argentine, 5¼ to 5⅜; a telegram received on Wednesday ... that the result of the treatment of ores for January was a yi... 12 dwts. per ton in the refuse ores now being reduced. The ... calciner had arrived at the mine. The shaft in the Piqué lode ... in regular course of sinking, the pitwork having been fixed. ... prospects of the mine generally were considered satisfa... Condes, 4⅜ to 5¼; an important report received from the ... states that the new shaft in the western part of the mine is n... at 40*l.* per fathom, which is an entirely new discovery. The lo... the bottom of the Isolina is now worth 100*l.* per fathom. Re... shipments of ore and metal are now coming forward.

Richmond, 6¾ to 7; the usual weekly telegram gives the w... run at $58,000. The refinery this week has produced doré bu... the value of $35,000. The manager's report is barren of news, ... to the suspension of work for several days, due to a serious acc... to the chief engine, and subsequent disabling of the second ... from overtaxing its powers. All the mischief done was rem... in a short time, and work recommenced. News has reached ... London office that the injunction obtained on *ex parte* state... was denied or dissolved. The Eureka Company, if they decid... continuing their hostile action against their neighbour, must ... their mode of attack. It appears that before obtaining the in... tion the Eureka Company had to give bonds to the extent of ... It may be presumed that this fund will be liable for the damage ... chief costs resulting from the action. The local paper at Eu... estimates that the slag pile at the Richmond Works contains ... and silver to the value of $4,000,000, and speculate on the chan... improved methods of smelting preventing this waste.

Emma, ⅜ to ⅝; an extraordinary general meeting is to be held ... Monday to consider the position of the action now being tri... New York, and to take such steps relating thereto as may be dee... advisable. Practically, the question to be decided is whether ... shareholders will subscribe from 10s. to 1*l.* per share for the pur... of carrying on litigation, in the result of which only those to w... the shares were originally allotted, and who still hold those sh... have any pecuniary interest whatever. This position should ... thoroughly understood by every shareholder before he gives his v... on Monday. The mine was actually sold under a judgment of ... American Courts, on September last, and the entire financial resu... of the company consist of 1814*l.* 7s. 3d. (probably reduced by ... Stoughton's draft to 314*l.* 7s. 3d. by this time), whilst the mo... to be paid comprise—to Mr. E. W. Stoughton, 4000*l.*; to Mr. W... J. Foulkes, an English barrister, sent out by the directors to N... York, a sum not mentioned, but which, if the gentleman left ... practice in this country, cannot be less than 2000*l.*; directors' ... office rent, and temporary secretary in London, about 500*l.*; ... Allen, secretary sent to New York, salary, travelling, and other ... penses, probably 500*l.*; solicitor's expenses, England and Amer... and fees, 4000*l.*, at least raising the amount to 11,000*l.*, and ... leaving about 9000*l.* or 10,000*l.* to provide for. This would neces... tate, supposing every shareholder to subscribe (for no one can ... compelled to subscribe one penny) a contribution of about 4s. ... share, and as an encouragement for risking this amount they ha... the opinion of their own counsel that "suppose the company w... the action, there will most certainly be an appeal, and although t... defendants must give security for costs the company will be lit... out of the fruits of its verdict, perhaps, for a year or more." Un... all the circumstances it is difficult to imagine that the shareholde... will so entirely ignore the old story of the lawyers, the clients, ... the oyster shells (especially as the oyster is already gone), ... oppose their own interests by supporting the continuance of ... litigation.

Flagstaff, 3¾ to 4; a special meeting has been called for Feb. 2... to confirm the resolution of March, 1875, authorising the directo... to borrow on 10 per cent. first mortgage debenture bonds; to e... tend that power to borrowing upon promissory notes, or otherw...

00,000*l.*, and at any rate of interest found necessary; to alter eholders' rights as to voting; to alter the directors' salaries, is stated that, by private telegram, news has reached that the Supreme Court of the United States, at Washington, n the special urgency of the case, resolved to give it a re- ; and that the decision of Chief Justice Schæffer, of Utah, n absolutely confirmed, establishing Mr. Hunter as repre- e of the company, in undisturbed control of the mine. No can be made against this decision. Messrs. Seligmann, the rk bankers, have accepted the position of financial agents company, and placed at Mr. Hunter's disposal $25,000, with rance that he can depend upon them for any additional l assistance that may be required. Private advices also at the mine fully maintains it value, and is now turning out an 70 tons of ore per day, at a cost not exceeding $20 per he official circular just issued states that Mr. Lockwood, well known as a respectable authority in mining matters on cific Coast, has inspected and reported favourably on the the details of this report will be looked for with interest. equer, 1⅛ to 2; a further improvement has taken place, rich e opening out in the footwall, and there is some good ore in . It is expected the mill is now running. I.X.L., ¾ to 1; in th drift, at the 200, the water is increasing the nearer is l the perpendicular of the bonanza.

Market for Hydraulic or Gold Washing companies has been and prices remain unchanged. The latest advices from Cali- state that from Jan. 15 to Jan. 20 a heavy storm of snow and d been raging, filling all the reservoirs and giving plenty of for mining purposes. The directors of Sweetland Creek have a meeting to sell the property and wind-up the concern. Creek, ⅝ to ¾; the agent is washing with all available water, ticipates good returns from the Baker claim, upon which he t commenced work. Blue Tent, 3 to 3¼; the annual meeting company was held on Tuesday, and is reported in another . The Chairman's statement was considered encouraging, ve much satisfaction. The last advices are dated Jan. 20, at time a heavy storm had been in progress for some days.

shares in Lead Mines have been without quotable variation. 5 to 37; there is no change reported from this mine. The s works are progressing in a satisfactory manner both under- and at surface. East Van, 7 to 7½; nothing new to report. inion, 5 to 5½, cum div.; the dividend (20 per cent. for the alf-year) will be paid on Wednesday. St. Harmon, 3 to e latest accounts state that some further improvements have d at the bottom and 35 fm. levels. Prospects very good. rley, ⅝ to ⅞; the lode in the 130 east is worth 1 ton of lead fathom. The ground in the south cross-cut is favourable, stream of water is issuing from the end. The winze below 0 east is worth 3 tons per fathom. In the lode in the 80 west promising for an improvement. No change elsewhere. The Wednesday—50 tons—realised 716*l.* 5s. Pateley Bridge, ; the 30, east of Rake Vein, is said to be steadily improving earance, and letting out abundance of water, showing every om of approaching a rich course of ore. The same level west e in the end is 4 ft. 6 in. wide, carrying ribs of solid ore, and ting a very encouraging appearance. The cross-cut in the 20 Lumb Vein is being pushed on night and day, and the end is cal with the ground in the 10 before the rich lode was cut. parts of the mine as usual. West Pateley Bridge, 5 to 5¼; raven cross-vein in the 56 is still improving, producing more t present than hitherto. Its character is everything that can esired for producing ore in paying quantities. In the 42 the s 2 ft. wide, and letting out more water. The lode in the e, west from No. 2 south, continues to produce 1 ton of ore hom. Dressing and other work progressing satisfactorily.

joined are the closing quotations:—

ton, 1¼ to 1¾; Carn Brea, 35 to 37; Devon Great Consols, 3¾ to 4¼; h, 35 to 37; East Caradon, ⅞ to 1⅛; East Van, 7 to 7½; Glyn, 2 to 2¼; Laxey, 20 to 21; Great West Van, ⅜ to ⅝; Hingston Down, ½ to ¾; lls, 6¼ to 6¾; Marke Valley, ¾ to 1; Parys Mountain, ¼ to ¾; Pate- dge, 2½ to 3; Pennerley, ⅝ to ⅞; Penstruthal, ½ to ¾; Roman Gravels, 14; Tankerville, 8 to 8½; Tincroft, 19 to 20; Van, 35 to 37; West n, 1¼ to 1¾ West Chiverton, 18 to 19; West Pateley Bridge, 5 to ; West Tankerville, 1¼ to 1¾; Wheal Crebor, 2½ to 3; Wheal Grenville, ; Almada and Tirito, ⅜ to ½; Argentine, 5¼ to 5¾; Birdseye Creek, ; Blue Tent, 3 to 3¼; Cape Copper, 40 to 42; Cedar Creek, ½ to ¾; les, ¼ to ½; Colorado Terrible Lode, 1½ to 2; Condes of Chili, 4¾ to ; Don Pedro, 7-16ths to 9-16ths; Eberhardt and Aurora, 8¼ to 9¾; Emma, ; Exchequer, 1¾ to 2; I.X.L., ¾ to 1; Flagstaff, 3¾ to 4; Frontino olivia, 1⅝ to 1⅞; Javali, ¼ to ½; Kapanga, 3¼ to 3¾; Last Chance, ; Malpaso, ⅝ to ⅞; Malabar, ¼ to ½; New Pacific, ¼ to ½; New da, 3⅝ to 3⅞; Pestarena, ⅛ to ⅜; Plumas Eureka, ½ to ¾; Rica, ⅛ to ; hmond Consolidated, 6¾ to 7; St. John del Rey, 290 to 310; San Pedro, ; Sierra Buttes, 1⅜ to 1⅝; Tecoma, ⅛ to ⅜; United Mexican, 2¼ to 2¾.

COLLIERIES.—The market for these shares remains steady, and without any material change; in fact, while the coal trade maintains its present attitude, or only improves by almost imperceptible degrees, no great or sudden rise can be looked for in the price of colliery shares. But the prospects of the coal trade are not nearly so gloomy as many "would be" authorities make out, for there is evident improvement in many of the manufacturing trades; and, moreover, the long continued stagnation of business and of production has necessarily brought about a scarcity in the various markets for manufactured stuffs, which must sooner or later—we think very soon—be remedied. Hence we look for an increased home consumption of coal, and the enormous exports of fuel which have been going on for many months past have kept stocks down so low that the coal market will be immediately affected by any enlarged demand. But we are not sure that a little further continuance of low prices in the coal trade would not prove to the owners of many good collieries as remunerative as any sudden increase in the value of their product, for it is now a very well-known fact that for a long time past many collieries have been worked at a considerable loss, and unless improvement comes soon we may look for the closing of many pits, the consequent reduction of the quantity of coal raised, and this diminished supply, would very soon put prices up. Really good collieries are even now making profits, and higher prices, however they may be brought about, either by increased consumption, or by lessened production, will very shortly improve their incomes.

We hear from West Mostyn that drivings are being made from the bottom of the pit, which is now 421 ft. deep, towards the last seam cut, the coal in which is of excellent quality, though the full thickness has not yet been proved. We are pleased to hear that the new shaft, 16 ft. in diameter, at the Chapel House Colliery has reached the Park Mine, for which it was sunk, and that the coal is of first class quality, and 5 ft. 10 in. in thickness. Rapid and satisfactory progress has, therefore, been made, so far, towards the increase of the output to 1000 tons per day, and with such a market as Liverpool close at hand there can can be no doubt that the company will find ready customers for this, or even a much larger output Cardiff and Swansea are at 2 to 2¼. The output of coal is as large now as the number of men employed can possibly turn out. Prices, however, in the Swansea district are still very low, and leave little room for profit; but with an improvement in trade, and consequently better prices, the company should do well. Alltami shares are quoted 5 to 5¼, and operations at the colliery are reported as progressing steadily and satisfactorily. The new engines at section D work well, while the small portable one is placed at the No. 2 pit to draw from the "bind" seam. Prospects are considered good, as the working expenses are not heavy. Llay Hall, 9½ to 10; the drivings upon the main seam are proceeding favourably, and a large quantity of coal is laid open. The latest quotations are—Chapel House, 3 to 3½; Newport Abercarne, 3½ to 4; Bilson and Crump, 6½ to 7½; Cakemore, 2½ to 3; New Tharlston, 4 to 4½; Thorp's Gawber Hall, 1¾ to 2¼; Cannock and Huntingdon, 2¼; Hamstead, 9½; Mid-Cannock, 14; Sandwell Park, 20; Spon Lane, 4½.

At Swansea Ticketing, on Tuesday, 2064 tons of copper ore were sold, realising 22,486*l.* 15s. 0d. The particulars of the sale were—Average standard for 9 per cent. produce, 95*l.* 18s. 4d.; average produce, 14 13-16; average price per ton, 10*l.* 17s. 10d.; quantity of fine copper, 305 tons 15 cwts. The following are the particulars of two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Jan. [illegible]	2314	£96 7 4	11 11-16	£8 10 6	14s. 6d.	£72 10 0
Feb. 13	2064	95 18 4	14 13-16	10 17 10	14 8	73 7 0

Compared with the last sale, the decline has been in the standard 9s., and in the price per ton of ore about 1s. 4d. The Cape ores gave an average produce of 31 7-16, and sold at an average of 23*l.* 14s. 7d. per ton, or 15s. 1d. per unit of fine copper, the standard realised being about 7s. better than that for the whole sale. On Feb. 27 there will be offered for sale 1363 tons, from Betts Cove, Carracedo, Union, Var, Cronebane, Tigrony, Australia, and elsewhere.

BEDFORD UNITED.—A great change has taken place in the prospects of this mine, and depth appears to be proving the value of the property. In the 127 (the bottom level) east the lode is looking well for many fathoms in length, and a good course of ore is reported in the 127 west. The shaft is being sunk with all speed, and the winze from the 115 will shortly be in communication with this level east. Some 4000*l.* worth of ore is already laid open, and will be considerably increased as the present vigorous system of working the mine is carried out. There are several lodes running through this sett. The Tavistock lode has returned to the shareholders 54,000*l.* in dividends. The north lode, now being developed, is progressing towards a satisfactory division of profits. Operations on the south lode have been resumed with energy, and men are engaged in clearing the cross-cut to the Bridge lode, which is believed to be one of the most valuable and productive lodes in the district.

WHEAL AGAR.—Tinstone of the value of 414*l.* has been sold during the last four weeks; and 9 tons of tin have been raised from the shaft alone in the same time. The lode still holds rich to the north, no wall having yet been seen, although 20 ft. from the south side of the shaft.

HOLMBUSH.—We observe that the sale of arsenical ores for the month of February is estimated at 600 tons, being an advance of 100 tons over last month, when a dividend at the rate of 30 per cent. per annum was declared.

GORSEDD AND MERLLYN CONSOLS.—The lode lately opened upon is yielding splendidly. In sinking last week over 10 tons of lead were obtained, leaving stoping ground. It is expected that the vein will produce great quantities of ore as depth is attained; the indications for such are highly satisfactory. A sale of quite 40 tons will be made at the coming Holywell ticketing. The working costs are light.

EBERHARDT AND AURORA.—The directors have, at the request of several large and influential shareholders, sent the following telegram to Capt. Drake:—"You telegraphed mine not looking as well. Does this refer to the general aspect of mine, or to the new ore body first level? Please explain." And have received in reply the following:—"Refers to new ore body only. Incline looking more favourable."

CALAMINE.—We are informed by Messrs. Berger Spence and Co., of Lombard-street, that the value of calamine ore containing 65 per cent. of zinc is from 6*l.* 15s. to 7*l.* 5s. per ton, and of course this will vary according to the percentage of lead that is in the ore. Another correspondent writes: To calculate the value per ton of calamine calcined perfectly sweet and in fine powder, and containing (say) 70 per cent. of metallic zinc, apply the formula used in the purchase of calamine, and add to the price (say) 18s. for grinding and calcination.

A petition for winding-up the Last Chance Silver Mining Company of Utah (Limited) by the Court of Chancery has been presented to the Master of the Rolls by Major Lachlan Forbes, of Wimbledon, and Mr. W. T. Western, of Charing Cross. The petition is directed to be heard before the Master of the Rolls on Feb. 24.

Vice-Chancellor Malins has appointed Mr. Flaxman Haydon (Haydon and Vivian) official liquidator of the General Machinery Purchase and Hire Company. The Master of the Rolls has also appointed the same gentleman official liquidator of the Mostyn Silver, Lead, and Blende Company (Limited).

The creditors of the Welsh Ironworks Company (Limited) are requested to send particulars of their claims to the liquidator by April 24; and those of the Berrisford Engineering Company (Limited) by Feb. 28.

The balance-sheet of the Langham Hotel Company for the last half-year shows, inclusive of 1949*l.* brought forward, a net profit of 9309*l.*, from which a dividend at the rate of 20 per cent. per annum absorbs 8603*l.*, and the remainder is carried forward.

The report of the Phosphor Bronze Company for the past year states that an interim dividend of 2½ per cent. for the half-year ending June last has already been paid, and it is now proposed to pay a furthur dividend, making the distribution for the year equivalent to 10 per cent. per annum, free of income tax, on the paid up capital.

The net receipts of the Van Railway Company, added to the balance from the previous account, amounted for the past half-year to 2589*l.* The renewal account written off from the above shows a credit balance of 474*l.* A dividend at the rate of 5 per cent. is recommended, which, with the balance to debit of capital account, absorbs all the surplus but 218*l.*

The directors of Bolckow, Vaughan, and Company recommend the payment of a dividend of 3*l.* 0s. 3d. per share upon the A shares and 2*l.* 5s. per share upon the B shares of the company for the year ended Dec. 31, of which sum 18s. 9d. per share upon the A shares and 15s. per share upon the B shares, being an interim dividend, was paid on Oct. 3.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

COAL-DUST FUEL.—I would feel much obliged if any of the readers of the Journal could inform me, through its columns, where at any of our smelting-works in this country the furnaces are heated by the coal-dust process of feeding furnaces with fuel.—M. T.

BEDFORD UNITED.—About two or three months since some letters appeared in the Journal relative to the Bedford United Mine, referring, I think, more particularly to its management, and having the *nom de plume* "T. H." appended. I have privately been repeatedly accused of writing those letters; of course I have denied the charge, for I have neither directly nor indirectly been the author, writer, or instigator of those letters; and you would do me a great favour by kindly replying and saying that I am not the man.—CHARLES JAMES.—[The publication of this note is probably the best confirmation of Mr. James's statement.]

Received,—"H. W." (Hoboken): Next week—"Shareholder" (Bath)—"T. W."—"Shareholder" (East Van): Enquire through your broker—"C.R.": The particulars are given in another column—"Shareholder" (Glasgow): We could not publish the letter without the writer's name is appended—"P. M."—"Atlas": Yes.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, FEBRUARY 17, 1877.

TRADE DEPRESSION—ITS CAUSES AND LESSONS.

The Board of Trade Returns for the past month of January, and indeed for several months past, plainly indicate the terrible trying ordeal through which the country is at present passing, and should induce us all to calmly, yet boldly, look our position in the face. Trade is affected by many subtle influences which we may not be able to clearly trace; but the Returns which are monthly issued under the authority of our Board of Trade form a trade barometer which cannot be gainsaid, and which it would be the height of folly to attempt to ignore. It is unquestionably a fact that not only the great staple trades—iron and coal—but almost every branch throughout the United Kingdom is under a dark cloud of depression. Our exports show serious and continuous decreases both in value and quantities. It is but little consolation to know that the trade of other nations is nearly if not quite as bad. We have to do with the paralysis which has fallen upon our own staple industries, to endeavour to ascertain its causes, to learn the lessons which it should inculcate, and to boldly face our position in order to quietly and gradually bring about a remedy.

To afford a criterion of the depression which characterises the trade of the country we should state that the total exports for the month of January were 15,946,080*l.*, as against 16,654,512*l.* for January, 1876, and 16,986,760*l.* for the same month of 1875. The most serious decline was in the value of woollen goods and iron—in fact, in some of the other trades a slight improvement was manifest. The value of the imports for the month was 32,899,380*l.*, as against 30,673,747*l.* in January, 1876, and 32,375,675*l.* for the same month of 1875. Nor should it be forgotten that the returns of trade throughout the whole of the past year show serious falling off; the total decrease of our exports for the year 1876 being no less than 21,000,000*l.* short of those of 1875, and that much, very much, of this serious decline was in the staple trades of coal and iron. These figures indisputably prove that where only a few years ago all was activity and prosperity there is now a languishing industry, with much perforced idleness, and wages reduced in almost every department of commerce.

The causes of the present depression are not far to trace. They are commercial, speculative, and social: in other words, it results from two phases of reaction—first, from the reaction of the unhealthy speculative tendencies of the preceding years; and, second from a reaction in those branches of industry in which we have hitherto enjoyed much prosperity, if not almost monopoly. The prosperity of the iron and coal trades of the country seemed to culminate in 1873, since which time there has been a continuous and serious decrease in the exports. The previous prosperity of the iron trade arose principally from the excessive demand for iron in Europe, America, and India, caused by the construction of new and important lines of railway in those countries. Some of those lines were needful, and have produced most satisfactory results—beneficial to the residents, and pecuniarily acceptable to the British capitalists through whose agency they were chiefly carried out. Other lines, however, were the product of the fertile brains of reckless speculators, whose bubble schemes were chimerical, and the collapse of which brought such financial distress and ruin upon the unfortunate shareholders. In the time of this apparent prosperity everyone who had a few spare pounds rushed into speculation, investing capital without proper enquiry, in the hope that they would be able to make large dividends out of the general scramble. This, unfortunately, is only human nature, but it begets a specious unhealthy trading, which is sure, sooner or later, to be paid dearly for. But not only so; in the height of the outward prosperity which created the unusual demand for our staple industries workmen and artizans make demands for higher and still higher wages and shorter hours of labour. They become dictatorial and overbearing, until at length the demand for iron and coal falls off, the requirements of foreign consumers having been supplied, and an utter collapse is the result.

Trades Unionists have also very much to answer for in materially assisting to bring about the depression from which the country is now suffering. This is now so generally recognised, even by some of the unionists themselves, that we need not enlarge. The paid agitators of these Unions, instead of devoting their energies in those legitimate channels which would produce beneficial results, were persistent in their demands for more wages, continuing these demands long after the reaction had set in, and in the face of rapidly falling markets. Unable, or unwilling, to read the signs of the times, deaf to every appeal and remonstrance on the part of iron-makers, colliery proprietors, and manufacturers, they made such demands as to render it impossible for British makers to compete with other nations; hence the suffering and privation which now exist in their own ranks, and the odium that now attaches to Unions as inimical to the best welfare of the country.

But bad as is our trade, and gloomy as are our prospects, we are not going to take a pessimist view of our position. We are not amongst those who profess to believe that the general prosperity of the United Kingdom as a manufacturing and commercial nation is on the wane. The undoubted wealth of the country, and the prosperity of the people, combined with the fresh markets for our iron and coal which the wealth and energy of our makers and merchants will open up, will enable us to safely tide over the present unfortunate epoch in our commercial history. In the depression which now exists we fail to see any vital cause for alarm or despondency. We may not again have those inflated prices for our staple industries which the excessive demand for them created some few years back; but whilst we have inexhaustible supplies of coal, the foundation of all national wealth and prosperity, we need fear no permanent injury. The condition of Turkey, and the general unsettled condition of the Continent for so long a time, have also had effect upon our trade, and with an escape from any actual entanglement with the affairs of that country we may reasonably hope to see a revival of demand in that direction: in fact, there are other indications that the reaction of 1873 has spent its force, and, all things considered, the country is but little the worse financially for the trying ordeal through which it has passed.

There is one aspect of the Board of Trade Returns which is exceedingly satisfactory: they prove the general solidity of our home trade, which, truth to say, has never shown any material sign of weakness or decay during the trial to which it has been submitted. Our imports have not only not decreased, but have increased, a proof of the still prosperous condition of the great bulk of the people and the wealth of the nation. It proves also that, notwithstanding the decrease in our exports, a vigorous home trade is still being done, and it is to this trade rather than foreign that we must look for still greater prosperity for some time to come. The dividends of some of the principal railway companies for the past half-year, together with the increase in the shipping tonnage of our coasting trade, afford unmistakable index to the satisfactory condition of our home trade, which is the great security of the country in the present crisis.

All classes of the community should learn salutary lessons from the depression which now characterises the trade of the country, if they desire to prevent a repetition. The capitalists should eschew bubble companies, especially those floated in foreign countries, of which they cannot possibly know anything. Merchants and manufacturers should avoid as much as possible rash speculations, betokening an inordinate desire to rapidly accumulate wealth; and our mechanics and artizans should be satisfied with moderate wages, while all classes should renounce those luxuries and superfluities which absorb very large amounts of capital, and divert it from more legitimate channels. It is certainly no credit to us as a nation that whilst trade is paralyzed in almost every department, and whilst there are hundreds and thousands of ablebodied men and their families in a state of semi-starvation, the amount spent in intoxicating drinks is increasing year after year at an alarming rate, and prostrating the energies of our working and middle classes as nothing else can. However, as we have before said, we cannot see anything in the present depression which should cause ground for alarm or apprehension for the staple trades and industries of the nation. Nay more, signs of improvement are visible, and we believe we have weathered the worst of the commercial storm without material damage to the stability of the nation. In the continued and increasing demand for raw materials we see the elements for the continued prosperity and still further development of our home trade; and in the wealth of our merchant princes and the energies of our manufacturers we look for the opening up of fresh fields of enterprise and new markets for our goods, which shall eventually place the trade of the country upon solid foundations, rather than that specious trading the outcome of unhealthy speculation and inflated prices.

RAILWAY PROGRESS IN AUSTRALASIA.

Amid the general depression which persistently afflicts the home iron trade it is not a little satisfactory to be able to state that the development of Australasian railways is proceeding with a steadiness and vigour from which the best results may be anticipated. The Government of Victoria contemplates an outlay of 1,300,000*l.* for railway extension purposes; and the Governor of New South Wales, in his speech on opening the current session of the Parliament of that colony, expressed his satisfaction that railway communication was being perseveringly opened out throughout its vast extent. His Excellency added that since the close of last session 27 miles of line had been opened upon the Great Western Railway of New South Wales from Bathurst to Blayney, while the Great Southern Railway of New South Wales had been opened to Binalong, a distance of 21 miles from Yass, within the contract time prescribed for the execution of the works. The Governor was obliged to admit that the works on the Great Northern Railway of New South Wales, from Murrurundi to Quirindi, had not yet been completed, although the contract time had expired. His Excellency explained that, the heaviest portion of the works being at the Murrurundi end of the line, the progress of the permanent way had been considerably retarded in consequence; the penalties prescribed for delay were, however, being enforced, and there was strong ground for believing that the line would be completed to Tamworth by the date of the extended contract time—Sept. 30, 1877.

It was further announced in the Governor's interesting speech that the sections now in course of construction in New South Wales were those from Binalong to Wagga Wagga, 93 miles, on the Great Southern Railway; from Blayney to Orange, 20 miles, on the Great Western Railway; and from Murrurundi to Tamworth, 64 miles, on the Great Northern Railway. As regards the Binalong and Wagga Wagga section, 20 miles to Murrumburrah are expected to be opened before the close of this month (February, 1877). A similar report may be made with respect to the Blayney and Orange section, and on the Murrurundi and Tamworth section, 24 miles to Qurindi are expected to be ready for the locomotive in March, 1877. Although these details showed tolerably conclusively that the New South Wales Government was pressing forward with all dispatch in the important work of railway construction, the Governor did not end here; but he was enabled to announce that during the recess of the Colonial Parliament plans and books of reference for 265 further miles of line had been in course of preparation, and would be submitted for the approval of both Houses of the Colonial Legislature as acquired by the constitution and the special legislation relating to railways in New South Wales, which, after all, must be said to press Victoria hard in the race for the distinction of being placed first and foremost among the increasingly important Australasian group of colonies.

In New Zealand, we may add while we are upon the subject of Antipodean railways, no less than 464 miles of line have been in course of construction during the last few months. As regards South Australia, again, the Governor of that colony has just formally inaugurated the Port Pirie and Gladstone line; and we are only doing justice to Queensland when we record the fact that that enterprising colony is keenly alive to the advantages attending railway communication, and is doing its utmost to secure them to a larger and larger extent.

The prospect of a good demand for our railway iron in Australasia is certainly good upon the whole. But meanwhile the new year has not opened very brilliantly as regards our exports of railway *materiel* to the Antipodes. Thus in January we shipped 3356 tons of railway iron to our Antipodean colonies, as compared with 3647 tons in January, 1876, and 8796 tons in January, 1875.

SOUTH AUSTRALIA.—A correspondent writing from Kadina (Dec. 28) states:—"We celebrate to-day the 40th birthday of South Australia, and although our soil has not yielded her natural increase in its 39th year, we are not only proud but amazed with what she has done in so short a period. We have no account of our staple exports since November, 1875, but to that date 1875 spared to the mother land 165,000 tons of bread stuff at the low average price of 4s. 6d. per 60 lbs. bushel. We have also sent you in 1874 700,323*l.* worth of copper and copper ore, and 1,998,939*l.* worth of wool, and the aggregate assets of our banks amounted in June, 1875, to nearly 5,000,000*l.* We have over 5000 acres of vineyards, 1,330,484 acres of land are under cultivation. We had in 1875 93,122 horses, 185,342 horned cattle, and 6,120,211 sheep. We have four daily, five bi-weekly, and 14 weekly newspapers, besides two monthly publications. Our exports for 1874, 4,402,855*l.*, and imports for the same period, 3,983,290*l.*, go to show that we are good customers as well as energetic producers."

COAL AND IRON IN THE UNITED STATES.—In the year ending Sept. 30, 1876, 9465 tons of steel rails were used in repairing the track of the Erie Railway, and 7523 tons of re-rolled iron rails were also employed with the same object. At the close of September, 1876, the Erie system had been steel-railed to the extent of 341 miles. American rails have been quoted at the works at $36 to $40 per ton currency. The production of anthracite and bituminous coal in Pennsylvania to Jan. 20 this year amounted to 1,447,931 tons, as compared with 1,479,411 tons in the corresponding period of 1876, showing a decrease of 31,480 tons this year. This decrease was somewhat enlarged in the week ending Jan. 27. The market for English cannel coal has ruled steady at Boston; small lots have been sold at $20 per ton. In Cumberland (Maryland) coal little or nothing has been done at Boston. Gas coal has remained quiet and unchanged at Boston. There has been a steady demand for anthracite upon the Boston market, at $6¼ to $7 per ton. An elaborate calculation which has been recently made shows that the Philadelphia and Reading Coal and Iron Company owns coal to the vast extent of 4,476,009,390 tons. There are 101 coal mines on the company's lands, of which 53 are owned by the company, while 43 are leased to a large number of other persons.

LETTING DOWN WATER TO ADJOINING MINES.—An important case, which has occupied Vice-Chancellor Sir Charles Hall [illegible] days, was concluded on Monday. It was a suit by Ridgway [illegible] Others (more generally known as the Arley Main Colliery Company) against the Hilton House and Red Moss Colliery Company, [illegible] perties of both parties being situated in Blackrod, Lancashire. Mr. Dickinson, Q.C., Mr. Fry, Q.C., and Mr. G. B. Finch (instructed by Messrs. Peace and Bell, of Wigan) argued the case on behalf of the Arley Main Company; and Mr. Eddis, Q.C., Mr. Graham Hall, Q.C., and Mr. Hadley (instructed by Messrs. Wheeler, Bell, and Fletcher, of Blackburn) represented the Red Moss Company. The Arley Main Company's Park Hall Colliery on the west side of the main fault which runs through the district, and the Red Moss Company's mines are partly on the west side of this fault and partly on the east side, and the dip of the strata being from north-east to south-west, the natural flow of the water is from the Red Moss Company's mines to the Park Hall Collieries. On the east side of the fault is a large morass. The Red Moss Company, wishing to get some of the coal lying under this morass by means of a [illegible] carried through the fault from a seam on the west side which they were working, and which they believed was on, or nearly on the same level, with a valuable seam on the east side, drove their [illegible] through the fault. Thereupon the Arley Main Company, believing that a great quantity of water would be let down from the [illegible] and through the Red Moss Company's mines, and thence through some old workings of the Red Moss Company's into the Park Hall mines, filed a bill in May, 1875, to restrain the Red Moss Company from turning or suffering to be turned or to flow into the mines of the Arley Main Company any water from their mines or from the hollows in those mines, and to restrain the company from [illegible] any way or passage through the main fault, and for [illegible] The Arley Main Company's lease for 31 years from Nov., 1869, of the Arley Main seam on the south-west side of the main fault reserves to the landlord power to demise mines above or below to other persons who may undertake not to turn any water into the Arley Mine, but raise it to surface and convey it away. The lease also provided for a barrier of coal, 20 yards thick, to keep back the water. In 1864, the landlord granted the Arley Main Company the Yard and the King-coal mines on similar conditions. The Red Moss Company have recently acquired parts of King-coal on the north-west (Arley Main) side of the fault and parts of the Arley Yard and King-coal Mines on the north-east side of the fault, and have commenced a tunnel through the main fault to get their coal from the other side. This allows an unlimited flow of Red Moss water into the Arley Main workings, and the present suit was to restrain the Red Moss Company from allowing the water so to flow. The Vice-Chancellor considered the evidence conclusive that the increase of water in Arley Main had been caused by the Red Moss workings, and he thought means might be found of cutting through the fault without allowing the water to flow through into the plaintiffs' mines. It was not for him to say how this was to be done, but he thought that by some mechanical contrivance it might be accomplished. At all events, he was not satisfied that it could not; there was no covenant against cutting through the fault, and in this respect he declined to interfere for the plaintiffs. But the bill had a wider scope, and his Lordship had next to enquire whether there had been such a breach of the engagement in the lease to "raise, turn, or put any water" into the workings or holes of the plaintiffs mines as to entitle them to relief on this ground. His Lordship, on the evidence, he thought it was a just conclusion that the water the defendants in cutting through the fault did occasion to flow into the plaintiffs' mines of a considerable quantity of water. The Arley Main Company were, therefore, entitled to an injunction. But an injunction could, according to the usual course of the Court, be granted in this case. His Lordship felt some difficulty upon this point. If it was the result of the evidence that it was physically impossible that the defendants could prevent this flow of water, then he could not order them to prevent it. He did not think, however, that he ought to refrain from granting an injunction on the ground of any supposed difficulty. There must, therefore, be an injunction in a general form to restrain the defendants from allowing water to flow through the cutting in the fault into the plaintiffs' mines. As to damages, or enquiry as to damages, would, however, be given if there was any claim to them it must be set off against the costs of that part of the case which the plaintiffs had failed to establish. On the whole case the plaintiffs had succeeded; and the costs, as usual, follow the result, except the costs of taking the shorthand notes of the evidence, as to which there was an agreement.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Feb. 15.—Undoubtedly more business is being done at some local works, and it is certain the few rail orders in the market have been secured by this district. Both iron and steel rails can be produced in South Wales cheaper than in the North of England or other districts, and wages being low, if there were only a moderate rise for the better in prices many of the establishments which are now closed would, doubtless, be again re-started. As before stated, Mr. Crawshay has intimated that with a slight increase in prices the re-starting of at least a portion of the Cyfartha Works, which for so long stood idle, might be looked forward to. It is, therefore, to be hoped that there will be a movement in quotations, and that the district may resume an aspect of something like its wonted activity. There is no material change to note in pig-iron, but at the steelworks comes the news that there is a fair amount of work in hand. At Ebbw Vale and Rhymney steel making is vigorously proceeding. In the general depression in trade which prevails it is pleasant to see so satisfactory a report presented to the shareholders of the Patent Nut and Bolt Company (Limited), which works near Newport. The annual dividend is to be 10 per cent., and after that is paid there will remain the sum of 500*l.* to be added to the credit of the reserve fund, and 400*l.* to be carried forward. A net profit for the year of over 34,000*l.* is shown.

The annual meeting of shareholders in the Mwyndy Iron Company has also been held. A dividend of 3s per share, making with the interim dividend paid 4s. 6d. per share for the year, was declared. The sum of 775*l.* will be carried forward. About Tin-Plate Trade very little can be said, except that there is generally more regularity of work apparent at the various establishments. There is also no material alteration in the Coal Trade to be reported, although the demand continues good, and shipments foreign are up to recent averages, which are large. There is not much demand for house coals as is usual at this time of the year. Patent fuel in slack demand. Freights show a slight advance. Two local companies—the Gelli-deg Colliery Company and the Rhymney Coal and Iron Company—have been ordered to be wound up by the Chancery Division of the High Court of Justice; and it is supposed that, with the bad times we have had, some of the smaller concerns have kept afloat so long. The Great Western Railway have given greater facilities for the transit of coal from the Aberdare and Rhondda Valleys to Newport, which must prove of benefit to that port.

The figures to hand of coal exported during January, as compared in the corresponding period of 1876, show a falling off. Cardiff cleared last month 59,959 tons foreign, against 75,179 tons in corresponding month of last year; Newport, 62,170 tons, against 72,604 tons; Swansea, 15,930 tons, against 25,589 tons; and Llanelly, 6221 tons, against 6998 tons. Coastwise the shipments were 285,924 tons, compared with 285 924 tons from Cardiff; 46,949 tons compared with 41,851 tons from Newport; 43,502 tons, compared with 45,679 tons from Swansea; and 3925 tons, compared with 4[illegible] from Llanelly. The exports of patent fuel also show a great falling off. Last month Swansea shipped 8618 tons, against 15,000 tons the previous month; and Cardiff, 5402 tons, against 9[illegible]. Clearances of iron show a slight increase on the month. Cardiff reported in January last 3822 tons, compared with 1654 tons in the month of December; Newport, 2968 tons, compared with 2[illegible]

nsea, 226 tons, against *nil*. The principal shipments were Bahia, Bilbao, Rosas, Naples, Santos, and Valencia. Notices en posted at the principal collieries and ironworks at and the neighbourhood of a termination of contracts in a Subscriptions continue to flow in pretty freely for the re- hose persons whose relatives were killed or injured in the rtillery explosion.

principally to the fact that large shipments (foreign) of e taken place of late, the mineral traffic of those railway ning to the ports of the district has been considerable; and dends of the local lines have been very good, considering ess of trade. The Taff Vale pays a dividend of 10 per cent. onus of 2 per cent. for the half-year; the Rhymney, 4½ per t; the Penarth, 4*l*. 7s. 6d.; and the Llanelly Railway and ompany 6 per cent. per annum for the half-year.

Bristol and South Wales Railway Wagon Company 32d half- meeting was held on Saturday, at Bristol, Mr. John Perry pre- Mr. J. Curtis read the report, which showed a disposable of 8014*l*. 18s. 7d., out of which the directors recommended ividend be declared at the rate of 10 per cent. per annum, r with a bonus at the rate of 2 per cent. per annum, leaving ce of 829*l*. 11s. 5d. to be carried to the current half-year's . The rolling stock of the company consisted of 7584 wagons riages and 7 locomotives, 845 wagons and carriages having rchased during the half-year, and 452 wagons and carriages omotives sold and redeemed during that period. The report opted, and it was resolved to declare a dividend of 10 per d 2 per cent. bonus. In reply to a vote of thanks, the Chair- d the concern was never in a more prosperous state than at

stated that there is a probability of the scheme for a floating at Neath being carried out.

REPORT FROM CORNWALL.

Feb. 15.—Again we have to report that there has been no change in the general position of mining matters, which are precisely as they were, as a rule, though in some respects the turn may be said to be slightly favourable.

The half-yearly report of the Cornwall Railway shows a falling off in the receipts of 988*l*., the greater portion under the head of passengers. This shows the condition of depression in which the country has been. The total receipts of the half-year were 64,217*l*. There has been, however, a decrease of working expenses and interest, so that the Great Western will have to make up a slightly smaller deficit—558*l*.

At the adjourned meeting of the County Adit Committee, Capt. Rosevarne reported that at this season of the year it was impossible to get through the entire length of the adit in consequence of the great quantity of water flowing though it, but it has been examined at various points, and its condition and capacity ascertained. In some places the water flowed through easily, but in other places it was much restricted. A large quantity of surface water had also been allowed to pour down into the adit at several places, in consequence of the surface draining being neglected on the abandoned mines. It was owing to this influx of water, which the adit had not been able to discharge, that the water had risen so much above the usual level. The Chairman (Mr. Marrack) said that a resolution was passed about two years since that the surface drainage should be attended to, but it did not seem that this had been done. It was evident that the adit required improvement in certain places, and it was resolved—"That prompt measures be taken to prevent surplus surface water from flowing into the adit, that the choke at Bal Dog be at once cleared, and that a stope be put over the level at Blackwater-road to improve the adit." Capts. Bryant and Rosewarne were appointed to inspect the adit periodically, and to take such measures respecting it as they may think proper. The question of the ochre deposited at the mouth of the adit was also discussed, and it was the general opinion that a greater return might be obtained.

A rather curious action has been heard at the Liskeard County Court, before Mr. M. Bere, Q.C., the judge, in connection with the Wheal Wrey, Ludcott, and North Trelawny Mines. Mr. Michael Williams Bawden, assayer, of Liskeard, seeking to recover from Mr. Thomas Allen 37*l*. 10s. for calls paid on 75 shares. Mr. Sparkes, instructed by Mr. R. Hingston, appeared for the plaintiff, and Mr. Hayes, of Fowey, for the defendant. The dispute was in substance, that whereas the plaintiff had paid 37*l*. 10s. for calls on certain shares, he claimed that amount from the defendant because he alleged that the defendant had undertaken to save him harmless against such calls. The calls in question were on the Wheal Wrey, Ludcott, and North Trelawny shares, and Mr. Sparkes, who appeared for the plaintiff in stating the case, said that when Allen was getting up the mine in November, 1874, he called upon Bawden, who had been assayer to the mines when they were formerly worked, told him of the scheme, and Bawden agreed to look through his books and prepare an abstract of the analyses. Allen also asked Bawden to take some shares, and he said he would take 20 or 25, believing then, as he believed still, that if sufficient capital could be obtained for the effectual development of those mines there were ores to be realised which might give a moderate remuneration. Allen, however, asked him to apply for 100 shares, guaranteeing him from all responsibility on the 75 in excess of the 25 Bawden was willing to take, in consideration of his assisting Allen in the development of the concern. And to this Bawden agreed. Subsequently, at Allen's request, plaintiff sent off his abstract of the analyses to Mr. J. P. Endean, in London, to enable him to compile the prospectus; and when the prospectus was issued Mr. Bawden's name appeared in it as supplying the information. Plaintiff also at Allen's request circulated about a couple of hundred of the prospectuses which had been initialed by Allen, as the latter had an agreement by which he was to have 10 per cent. on all the shares he sold, and the plaintiff was to share this. From time to time Bawden pressed Allen to give him the engagement with regard to the shares in writing, but without success until June 10, 1875, defendant gave him the following in the form of a letter:—"Dear Sir: In consideration of your promoting my interest in the mining company of Wheal Wrey, Ludcott, and North Trelawny to the best of your ability, I will undertake that you shall not be called upon to pay in full for more than 25 shares of the number that may be allotted to you in the said mines." A few days after the date of that letter there was a statutory meeting held in London, which the plaintiff attended, and at which one of the directors gave in his resignation. Following that came a meeting at Liskeard when it appeared that there were only 6778 shares taken up. This would have been utterly insufficient to provide working capital, even if all the shares had been available, and plaintiff urged the defendant not to proceed to allotment, but to make a call of 2s. 6d. a share and wind the concern up. However, the allotment was made, although the defendant had said there should be none unless 15,000 shares were subscribed for; and in the end the affair got left to the Stannary Court, where Bawden had been settled in a contributory for 100 shares, on which he had paid a 10s. call.

The case turned entirely on the meaning of the guarantee, whether the words, "your promoting my interest," referred to what had been done or to what was to be done, and it was argued for Mr. Bawden that they simply reiterated the promise Allen was said to have originally made. There was another point, whether the guarantee was simply against being called on to pay in full. Here Mr. Sparkes argued that the greater must include the less, but the Judge was against him on both points, and delivered a judgment couched in rather strong language.

Mr. Bere said he was sorry for the opinion to which he had to come. This was one of the transactions that disgraced the mining community of Cornwall, backed up by professional adventurers in London, who looked upon Cornwall as a sort of place out of which they might safely reap their harvest from the unwary. He should have liked to have made the defendant pay, but the agreement between him and Bawden had to be dealt with as it stood. The words used there, "in consideration of your promoting my interest," either meant having promoted in days past, doing something that very day, or an agreement to promote Allen's interests in the future. Nothing was done at the signing of the agreement or afterwards, and it, therefore, had to be considered whether the plaintiff's previous acts were a sufficient consideration. He was of opinion that they were not. In November, 1874, Allen introduced the scheme to Bawden. The latter did not regard it as a hopeless scheme, but looked upon it with favour, and took some shares. It was impossible, then, for Bawden to show that the principal and the great influence working upon his mind was the desire of promoting the interests of Allen. It was clear that his own private interests as the holder of shares, and his views of the advantages which the working of the mines would confer on Liskeard and its neighbourhood were quite as powerful, if not more powerful, than any feeling with to Allen. And when he sent out the prospectuses they had learnt that it was quite as much for his own interests as for Allen's, because he was going to share the commission. He (Mr. Bere) was, therefore, of opinion, and he was very sorry to be of that opinion, that no consideration had been shown for the promise that Allen made. Judgment must, therefore, be for a nonsuit, with leave to move, though he hoped the defendant would see the propriety of carrying out his promise.

Capt. Southey is making his mark—or perhaps it would be more correct to say has made it. He has resuscitated West Chiverton, has to all appearance dragged Wheal Jane out of the mire, and now he has introduced at West Chiverton a jigging machine, which was this week tried in the presence of a large number of practical men, and pronounced most efficient. It has been introduced for the purpose of separating blende and lead, and while not absolutely new is a most ingenious adaptation of various forms and principles of jiggers already in work. At the dinner which followed the inspection Capt. Southey was most highly spoken of, and, in reply to the toast of his health, said that the machine was nothing new, a little belonged to one, a little to another, and a little to himself, and between the whole he flattered himself that they had a machine that would beat any other he had yet seen. The stuff they had seen in course of treating that day had been thrown away for years as waste, and was the most stubborn that they could treat. It was composed of four minerals—lead, blende, copper, and mundic—and they had to separate the minerals after shaking off the waste. He thought what they had seen was enough to convince every reasonable man that by this machine they separated the blende, and then sold the other three minerals—lead, copper, and mundic—altogether, the specific gravity of the three being so equal that they could not separate them by water, and, therefore, the process had to be done by fire. If they treated their minerals by the old process the cost would overtake the charge, but by the present process, if they obtained 5*l*. per ton, it would pay. Then, again, the machine they had inspected turned over 80 tons per diem; and even supposing they made a produce of 1 per cent. it would pay costs. The cost would be—for engine, coal, enginemen, in short, everything—not more than 50*l*. a month, and the returns would be 300*l*. a month. An erroneous impression had got abroad that they could not do without blende. He would rather, however, have lead for the machine than blende. Among the other speakers were Capt. White, Mr. Kendall, and Mr. Woodward, and Mr. Kendall remarked that he had made a computation, from which it was evident that they could get 250*l*. for every 100 tons of stuff, which, being the monthly return of blende only, would, if they worked at 50*l*. a month, leave a monthly profit of 200*l*. Evidently, then, here we have another step in the right direction.

The Penryn foreshore case is again before the law courts in the Exchequer Division of the High Court of Justice. It has an important bearing in its principles upon the mineral rights of several parts of the county. The action is between the Corporation of Penryn and a Mr. Holm, and was originally brought for trespass and ejectment on account of the defendant having erected certain boathouses on the foreshore of the river at Penryn. The plaintiffs claimed the foreshore under certain deeds of conveyance, which, it was contended, had transferred possession to them from the Bishopric of Exeter and the Duchy of Cornwall, which had again received their title from the Crown by a statute of Edward III. At the hearing of the case before Sir Richard Amphlett a verdict was given for the plaintiffs in accordance with the alleged title set up by them as derived from the Duchy of Cornwall, while the claim under the grant from the Bishopric of Exeter failed. The plaintiff thereupon received a verdict for nominal damages, with the power reserved to both parties to move for judgment to be entered as the Court might ultimately think fit. The case now came before the Court in that form. Judgment after argument has been reserved.

There seems to be a gleam of hope for the Perran Iron Mines. A party of gentlemen from the North of England and from London, accompanied by Mr. Henderson, C.E., of Truro, left Par, Cornwall Minerals Railway, by the 9 A.M. train yesterday to formally visit and inspect them. They said that if they agreed about the purchase operations would be commenced at once, and that they would carry out the intention of the original proprietors—to build blast-furnaces at Par. It is to be hoped that arrangements will be made, as the re-opening of the mines would, at the present time, be a great boon to the labouring population of the county, and place the Minerals Railway in a good position. Mr. Pennant, M.P., was one of the party.

REPORT FROM THE NORTH OF ENGLAND.

Feb. 15.—In every department of the Coal Trade there are loud and bitter complaints as to the extreme difficulty of carrying on business at a profit, and things are really looking more desperate than they have yet done. During the past few days the men employed at the Wheatley Hill collieries of the Original Hartlepool Coal Company have received notice to quit their employment, and this step will add some 800 men and boys to the number already thrown idle by the stoppage a week or two ago of another of this company's collieries. At Broomside Colliery also the men have received notice to terminate their engagements at the end of a fortnight, but this notice has been given because it is intended to alter the plant, &c., at the pit-head, and it is not expected that the colliery will be idle for more than a few weeks.

It will tax the utmost resources of the Durham Miners' Association to provide the means of maintenance for those of their members who are now idle. That Union has still a large reserve fund, and it must be conceded that it has exhibited the possession of the elements of cohesion to a greater extent than most other Unions in the same district, but it cannot well stand the tremendous strain now made upon its resources by the unemployed for any length of time. I understand that the present membership of the Union is about 30,000, and of this number all but about 2000 voted on the recent dispute relative to the deputy question—a dispute that threatened to involve the first general strike that has taken place in the county for many years. Happily, however, the danger of a rupture has now been removed, and we may expect in a few days or weeks at the most to see the matter settled on a basis that ought to be satisfactory to both sides. It will at any rate be satisfactory to the deputies, who are now for the first time in more than half-a-dozen years getting just about the same wages as the hewers. It is certainly a very anomalous state of things that the deputies, who are really overlookers or foremen, should have been paid, as hitherto, some 6d. or 7d. per day less than the hewers and labourers whom they overlook. This is now altered, and so also is the relationship in which the deputies have too long stood to the Miners' Union, when they ought to have been employed with almost a single eye to the interests of the employers.

The effect of the exertions made by several North Country coal-owners to alter the prices of coal in the London market has so far been highly salutary. The price of best coal is now quoted to the consumers in London 1s. to 2s. per ton less than it was three weeks ago. A better demand for North Country coal was to have been expected from the change, but up to the present time it can hardly be said that such a result has taken place. On the contrary, the household coal collieries generally in the county of Durham are transacting a very moderate and a decidedly unsatisfactory business, a number of pits failing to realise more than 6s. per ton at the pit for best coal.

There is some little talk of proposing still another reduction in miners' wages, and it is much to be feared that such a result must before long come to pass. The miners of Durham are still earning at least 6 or 7 per cent. more than the wages of 1871, but the average net realised price of coal is now in some cases below the range of that year, while the cost of the production has in other respects been enormously increased. The average wages now earned by hewers throughout the county is a little over 5s. per day, and the masters proposed that the minimum limit of the sliding scale which has recently been so much talked about should be only 4s. 8d. per day; but this is a figure to which the miners will not willingly descend, and hence the negociations have for some time been at a dead lock. If they do not soon come to an issue the employers are likely to go in for another reduction of wages, which, like those that have gone before, will be submitted to arbitration, and in that event they may succeed in getting even more than the minimum for which they are now insisting.

The condition of the Cleveland Iron Trade runs pretty well *pari passu* with the coal trade. It is almost as bad as bad can be. The pig-iron trade is terribly depressed, and prices are lower than they have been for many months, No. 3, which is officially quoted at 45s. per ton, having really been sold within the last two or three days for considerably less than that figure. The demand does not at all improve, end stocks of pig-iron are accumulating on all sides. In other departments the iron trade fails to exhibit any tendency towards recuperation. The rail trade is as dull as ever, more than one half the rail mills in the North of England being altogether idle, while every other branch of trade, except plate making, is more or less depressed. The manufacturers of ship-plates, which are quoted at 7*l*. 5s. to 7*l*. 10s., are doing a fair business, because of the activity prevailing throughout the shipbuilding yards on the Tyne, Wear, and Tees; but it is very doubtful indeed whether this spurt of activity can be long maintained in the face of the generally adverse conditions that now prevail.

The mineral traffic receipts of the North-Eastern Railway for last week reached within 670*l*. of the receipts for the corresponding period of last year. On the operations of the past half-year the company have realised some 12,000*l*. less for mineral traffic than the receipts of the same period in 1875.

Engineers are not very brisk, marine work being in tolerably fair request, but locomotive land engines failing to come up to the average. On the Tyne there is a general movement for an increase of wages, and machinists and turners have claimed an additional 2s. per day, while platers, labourers, and others have demanded other concessions. There is a probability of a struggle in which the men can hardly fail to be worsted, considering how extremely futile it is to strike in the face of a falling market.

The general aspect of the Chemical Trade of Tyneside is one of encouragement. A capital business was done last year, and the prospects of the future are believed to be more promising than for some time past.

In the Northumberland Steam Coal Trade business is not any better than in the household and coking coal trade of the neighbouring county. A number of pits have been laid off, and it is threatened that others will shortly follow suit. The Billy Fairplay system is now in pretty general use throughout the county, although there are several important pits at which it has not yet been adopted, owing to local and exceptional circumstances.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 15.—A little more is doing this week at the sheet mills, consequent mainly upon a better enquiry for sheets by the galvanisers; and there is hardly so much quietude in the common bar and merchant iron mills. The improvement is not very decided, and the finished iron trade generally is worse than quiet throughout all the South Staffordshire localities. All the blast furnaces blowing in the district keep in full operation, and the iron is mostly going from the furnace straight on to consumers' premises. Prices are not altered upon the week. Coal keeps in more than abundant supply, and lower prices are quoted from the Cannock Chase district, the average price of deep and shallow coal together having been reduced to 12s. per ton, consequent upon an arbitration award, which reduces the current wages to 2s. 9d. per holer's day. This is the minimum rate upon the scale, the maximum being 5s per day, and wages to move between those points in the proportion of 1½d. per holer's day for every 6d. per ton on the average price of deep and shallow coal.

Shares in the Sandwell Park Colliery have changed hands at 20½, and in the Darlaston Steel and Iron Company at 1½ each for the 10*l*. shares, paid up.

The Patent Nut and Bolt Company (Limited), Birmingham, have made 34,000*l*. in the 12 months, and they have about 38,000*l*. to divide. It is proposed to declare a dividend of 10 per cent., which will absorb 28,000*l*., and to divide the remainder between the reserve and the forward balance. The first general meeting of the Birmingham Bolt and Nut Company was held on Monday, and the Chairman (Mr. R. Marriott) spoke in high terms about the property which the company had acquired, and of the prospects which were before them.

A dividend of 10 per cent. is being declared by the directors of J. C. Onions (Limited). The Val de Travers Paving Company show a net profit on the year of 1314*l*., the result mainly of the custom which the company had secured in connection with skating rinks, but a larger business had also been done in paving, as to which the prospects were declared to be more than encouraging. The 5*l*. paid-up shares of this concern are now selling at 1⅜. The Patent Shaft and Axletree Company are preparing for their interim dividend. Their 5 per cent. preference shares sold on Monday at 10½.

An extensive subsidence has taken place at the Limeworks at Dudley Port of Messrs. Dixon, Burn, and Co. It is suspected that a couple of supporting pillars have given way on account of accumulated water. There are houses in the locality, and as many as 60 have become untenantable, and the "drawing," which was first seen on Sunday morning, continues till the whole superstructure threatens to fall into ruin. Messrs. Dixon had reserved the mines, so that it is not likely that much pecuniary liability will fall upon them in connection with the subsidence.

Ironmakers in North Staffordshire complain very much of the dulness of business both as to the raw and finished article. Out of the 40 furnaces built only 24 are blowing, and the pig-iron made is not all readily disposed of. Both plate and also bar orders are greatly needed, but North Staffordshire makers are undersold by those of Warrington and Belgium. The mining industry is, perhaps, in a more unsatisfactory condition even than the iron.

The South Staffordshire Mines Drainage Commissioners, with a view to enforcing liability where liability has been incurred, have drawn up a code of bye laws under the term of their Act, and will seek their authorisation at Quarter Sessions. The Commissioners' experience has satisfied them that there are people who let down water into the mines yet escape liability. For example, shallow minerals are sometimes got over no very extensive areas, and the surface allowed to drop in. Such subsidences become a receptacle for surface water; in reality, create ponds. They are those people amongst others who, by the terms of the proposed bye laws, will be legally bound to contribute to the expense incidental to the ridding of the mines of the water which they contribute to send down.

At the South Staffordshire and East Worcestershire Institute of Mining Engineers' meeting to be held at Dudley, on Monday, a well-merited honour is to be paid to one who has for very many years been intimately connected with the mining industry of the district, and whose name has long been prominently before the public. The gentleman referred to is Mr. Brooke Ridgway Smith, who has been termed the "father" of the profession of mining engineering in the South Staffordshire district. The mining engineers in this coal field, in order to testify their opinion of him, have subscribed and had his portrait painted by Mr. E. Harrison, of Newcastle-under-Lyme. Mr. Smith, who is now 74 years old, will be present at the meeting, if his health permits.

At the South Staffordshire Ironmasters' Association annual meeting to-day Mr. Walter Williams made a personal explanation in reply to Mr. D. Jones, lest the men might think he was acting against them in the dark. Mr. Williams had been connected with the trade for 26 years, and no man in it could say that he had ever neglected

the interests of the trade, or the workmen employed in it. The association has now 72 members, and a call of 1*l.* per blast-furnace, and 2s. 6d. per puddling and mill furnace was made. Any member desirous of giving evidence on Mr. Macdonald's Bill is to send his name to the secretary. The enquiry on the state of the iron trade of Great Britain, instituted by the Secretary of State for Foreign Affairs, had been commenced by means of detailed information gleaned by means of circulars. The subject of railway rates has been constantly before the committee, and it has been contemplated to take a case before the Railway Commissioners, for which purpose part of the evidence has been collected. The canal toll on minerals between South and North Staffordshire had been reduced 5½d. per ton, and a revision of the internal railway rates of the district has been promised. The Birmingham Canal Company had refused an application for a reduction of rates, though 93 furnaces out of 149 were out of blast. Action was being taken through the Mining Association of Great Britain and the British Iron Trade Association relative to the railway Bills now before Parliament.

REPORT FROM THE FOREST OF DEAN.

Feb. 15.—The wages dispute, we are happy to believe, is for the present at an end. The opposition felt against the 10 per cent. reduction was strong and natural, for who likes depreciation, either of capital or labour? The colliers threatened a strike, but were wishful, if possible, to avoid it, except, perhaps, a minority of hot-headed thoughtless firebrands. They held several meetings, and let off a good deal of hard feeling in talk. Still, the wiser and more thoughtful workmen were anxious for an interview with the employers to try and get a settlement, and were so far successful in their pacific counsel as to induce the colliers in general to acquiesce in the desirability of that course. The chairman of the associated masters was accordingly written to, and a meeting for mutual conference was arranged to take place on Monday last at Cinderford Town Hall. The colliers met previously at the Lion Hotel, and settled amongst themselves who of them should go as a deputation to confer upon matters with the masters, and ultimately they appointed about 30 of the members for that office, but the associated masters pointedly refused to receive the miners' agent as one of them, on account (as they said) of his having charged them with bad faith and disloyalty to the sliding scale and other affairs, besides having held them up to ridicule, &c., at public meetings. The deputation was kindly received, and a very friendly and frank exchange of ideas and views on the matters at issue took place between them. The employers declared that at present quotations and a limited output they could not carry on trade except at a loss. This was considered undesirable and out of the question, and several declared that if the men refused to accept the 10 per cent. reduction they would close their works. The Chairman (Mr. Tom Goold) said that the Little lean sliding scale could not be acted upon lower than 11s. per ton for coal, but they wished to drop the coal (best quality) to 10s. per ton, and reduce the wages 10 per cent., but as soon as coals should again rise to 11s. per ton they (the masters) would give the 10 per cent. back to the men. Further, they would now reduce the price of the men's coals to 7s. 6d. a ton instead of 8s. 4d. as heretofore, and when the markets should rise to 11s. per ton to the merchants they would then consider what sliding scale could be adopted for future guidance. Ultimately the men consented to accept the reduction, subject to the general approval of the men; and looking, at the circumstances of the country and the coal situation, they have since acquiesced, and nearly all, we believe, gone to work. And so happily ends the conflict; the hope being that the reduction of prices in coal will tend to bring back the local trade. There is little else that is new in the Forest connected with coal and mining, and so we conclude our report for the present week.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has continued dull, and at the intervening settlement (particulars of which will be found below) the generally light rates, and in some cases "backs," indicate that some look for lower prices.

In shares of iron and coal concerns Nant-y-Glo and Blaina (pref.) have advanced 25s. per share, Cairntable 5s., Scottish Australian 2s. 6d., and Benhar (new) 1s. 3d. On the other hand, Bolckow Vaughan, A, have declined 20s., Ebbw Vale and Fife 10s. each, Benhar, also Lochore and Capledrae, 5s. each, and Monkland 2s. 6d. Aldridge are at 27; Andrew Knowles and Sons, 19⅜ to 20; Consett, 12½ to 12¾ prem.; Chapel House, 50s., buyers; Consett Spanish, 17s. to 18s.; Cardiff and Swansea, 40s. to 45s.; Darlington Iron, 9½ to 8½ dis.; John Bagnall and Sons, 7s. to 7s. 6d., sellers; Mid-Cannock, 80s. prem, sellers; Newport Abercarn, 67s. 6d., sellers; Pelsall, 6¼ dis., sellers; Sandwell Park, 20½ to 21½; Sheepbridge, 6¼ to 5¾ dis.; and (new) 10⅜ to 10⅛, both ex div.; Skerne, 7 to 7¼; Spon Lane, 85s. dis., buyers; West Cumberland, 12 to 11 dis.

In shares of foreign copper concerns Tharsis (new) are reduced 5s., and the 19*l.* fully-paid shares, 2s. 6d. A call of 5s. per share is payable on Huntington on the 7th proximo, therefore they are now dealt in at 3*l.* 5s. paid.

In shares of home mines Glasgow Caradon, old and new, are now quoted ex div. Bedford United and Aberdaunant firmer. Bampfylde offer at 12s. 6d.; Dubby Syke, 5s. 6d. to 6s.; Frank Mills, 5s.; Glenroy, 30s. to 40s.; Green Hurth, 50s. to 55s.; Gunnislake (Clitters), 30s.; Harwood, 5s. to 7s. 6d.; Hexham and Edmondbyers, 55s. to 60s.; Leadhills, 6¼ to 6½; Parys Mountain, 10s. to 12s.; Penstruthal, 11s. to 13s.; South Condurrow, 6 to 6½; and Teesdale, 15s. to 17s. 6d.

In shares of gold and silver mines Richmonds have improved 11s. 3l., and Flagstaff 2s. 6d., but Last Chance are reduced 10s. The Richmond run this week is 858,000. Emmas rather firmer. Pestarena United are at 3s. 9d. South Aurora wanted at 6s.

In shares of oil concerns Uphall are 2s. 6d. higher, but Young's Paraffin are 1s. 3d. lower.

In shares of miscellaneous companies the tendency of prices has improved somewhat. Scottish Wagons are raised 5s. Bede Metal are at 82s. 6d. dis. Earle's Shipbuilding, 21 dis. Hopkins, Gilkes, and Co., 7¼ dis. Langdale's Chemical, 77s. 6d. to 80s. Lawe's Chemical, 6 to 6½; Newcastle Chemical about 60s. Palmer, B, 15¾ dis. Phospho-Guano, 11½ to 11½, ex all.

On contango-day (Saturday, Feb. 10) the following were the rates of continuation current:—Contangos: 1d. on Canadian Pyrites; 1d. on Emma; 1d. on Glasgow Caradon; 1d. on Port Washington; 1d. on Huntington; 2d. on Marbella; 1½d. on Monkland; 2d. on Oakbank Oil; 1d. on ditto (new); 1s. on South Condurrow; 6d. on Uphall Oil; 6d, 3d., 4½d. on Young's Paraffin. Backwardations: 1d. on Monkland (pref.); 2d. on Omoa and Cleland; 1s. 6d., 1s. 3d., 1s. on Richmond; 6d., 9d., 6d., 7½d. on Tharsis. As at last settlement, the "back" on Richmond was lower in London than the rates quoted above; the making-up prices were 7 (London) and 6¾ (Glasgow). The dullness of the past account is sufficiently noticeable by the following comparison of the making-up prices fixed to-day with those of the previous occasion. The only improvements are—Richmond, 10s. per share, and Young's Paraffin, 5s. Canadian Pyrites, Emma, Glasgow Port Washington, Marbella, Oakbank, ditto (new), Omoa and Cleland, and South Condurrow are all unaltered. Tharsis have fallen 3l. 3s. per share, ditto (new) 12s. 6d., Uphall 10s., Monkland and ditto (pref.) each 5s., Huntington 1s. 6d., and Glasgow Caradon 6d.

J. Grant Maclean, Stock and Share Broker.

Post Office Buildings, Stirling, Feb. 17.

The Darcy Lever Explosion.—The bodies of the ten men who were killed by the explosion at Fogg's Pit, Darcy Lever, are still in the pit, and they are likely to remain there for some days longer. Last night, and again on Wednesday, Mr. Martin, deputy Goverment Inspector, made an exploration of the mine for a distance of between 500 and 600 yards from the pit eye, and he found a highly dangerous state of affairs. Dense smoke filled the workings at the extreme point of exploration, thus proving that fire was smouldering in the locality in which the explosion took place. None of the vapour had found its way into the return air-course, and Mr. Martin was of opinion that this was owing to a fall of roof which had completely blocked up the channel. There was, however, in the return air-course an immense quantity of fire-damp, which on being diffused with the pure air at the upcast shaft, and a lighted lamp being placed in it, immediately fired. Only two courses were now open for adoption, either to cut off the air or flood the mine. The former was after deliberation resolved upon. Half-a-dozen men, headed by Messrs. James Norris and Thomas Howcroft, descended the mine, and at a point 560 yards from the shaft they broke down one of the "cut-through" stoppings. As it was known this would have the effect of liberating a quantity of gas, the men immediately they had accomplished their perilous task, ran as fast as they could to the pit eye, and were quickly wound up. Mr. Martin afterwards made another examination of the mine, after which it was resolved to brick up the intake air course just beyond the broken-down stopping, and so by cutting off the air from the far workings smother the fire. This work is now being done, and when it is finished all operations at the pit will be suspended for some days.

The Farnworth Colliery Fire.—The inquest on the bodies of the 18 men and boys who were suffocated on Jan. 23 at the Stonehill Colliery, Farnworth, was concluded on Thursday before Mr. J. B. Edge, district coroner. The only fresh witness examined was Mr. W. Pickard, agent to the Lancashire and Cheshire Miners' Association, who, speaking from an experience of explosions in 20 mines, expressed a decided opinion that the catastrophe at Stonehill was caused by the firing of gas, and not of bratticing. The jury, after deliberating for three and a half hours, found "that the deceased died from suffocation, caused by the accidental firing of gas, brattice cloth, and timber in the plodder tunnel, but from the conflicting evidence they were unable to determine which was fired in the first instance."

Original Correspondence.

LEADHILLS SILVER-LEAD MINING AND SMELTING COMPANY.

Sir,—I shall be much obliged if you will allow me to state, through the Journal, that the actual sales made by this company to this date since its registration in September last are—

Lead ore	£8,972	16 9
Pig lead	4,220	14 0
Making a total of	£13,193	10 9

If I may judge from the number of enquiries I receive on this subject I think the figures will be acceptable to your numerous readers.—*St. Helen's place, Feb.* 16. F. R. Wilson, Sec.

EAST WHEAL LOVELL MINE.

Sir,—In case you have not received any report for your next publication, I enclose a copy of one this day to hand, which I shall feel obliged if you will insert in your paper for to-morrow, in order that my fellow-shareholders who read your Journal may have an opportunity of perusing it. I quite agree with Mr. E. J. Bartlett that a meeting of the shareholders should be held, and that quickly. I would advise that it be held in London, for the better convenience of shareholders generally, and to save the expense of hiring a room I offer my office for the purpose. Being tolerably well conversant with the recent operations, I feel certain that unless some steps are taken our property, "by no means an invaluable one," will be allowed to die the natural death of many mines so far as the present shareholders are concerned, and then—not at all unlikely—someone will step in and secure for himself or themselves a property that may be found to be of no mean value. For instance, West Wheal Jane, Sperne and Falmouth, and, very recently, Pedn-an-drea Mines, the shareholders of which have, I consider—in which I am not alone in my conviction—been cruelly deceived, if not robbed. At the present time the stuff is being raised from below the 120 to the 100 fm. level by manual labour, and, if I am not mistaken, 16 men are employed to do what six might and could do were operations carried on in a miner-like way. I think, also, I am correct in saying that for some months there was only one pare of 12 miners employed, which means but four at a time working underground, and yet the salaries of the agents, including the purser and the clerk, amounted to not less than 33*l.* per month. I, for one, will cheerfully join Mr. Bartlett in an effort to save an undoubtedly valuable mining property.

Gresham Buildings, Feb. 16. Granville Sharp.

Feb. 14.—Fatwork: There is very little alteration in the new shaft below the 117 since my last report. The lode is 4½ ft. wide, producing some good stones of tin. We have commenced to drive a cross-cut north at the 17 towards a new lode on which we had sunk some fathoms from surface to water, and found it large and of a very promising appearance to produce tin in depth. This cross-cut will further test the lode, and serve as an adit, as we have a water-wheel pumping from this depth.—Tregonebris: In the adit end west the lode is about 1 ft. wide, producing stamping work. The lode below the adit continues to look very well, and is worth from 10*l.* to 12*l.* per fathom.—Richard Quentrall.

OUR MINING MARKETS.

Sir,—I have been permitted, through your courtesy, on some few occasions to give to the investing public, by the media of your Journal, my opinions of the passing changes in the mining markets, and of the most eligible course for capitalists to take. As my experience is not less than it was formerly, when you so favoured me, permit me once again to make some observations upon the actual situation. The feeling in the mining share market is one of unquestionable depression, and, to a rather less degree, it is so in the mining districts. The sanguine views entertained throughout the whole of the last quarter of 1876, as to "the turn in trade at the opening of the year," have not been verified, at all events, according to the expectations of those interested, although all the public returns show that the total volume of our trade compared well last month with the first month of either of the preceding years. Still there is depression, and everyone should contribute to the best of his ability to offer what encouragement honestly appears to him to exist. My own opinion is that this is a most seasonable time for investors. The incubus upon the markets caused by the unsettled state of Oriental affairs will be speedily upheaved, because peace or war, decisively, will be better for the metal markets; if peace, the usual market events in circumstances of assured tranquillity will be found; if war, the old war demand for arms, ammunition, caparisons, equipments, copper caps, canteens, shoulder and helmet brass braids, scabbards, and all the long list of metallic appliances for war will be eagerly sought by the conflicting nations, and their market is here. Even if we are involved in war the demand for the product of our mines will be still greater than if we were not; and, as a wag from Cornwall lately laughingly said, "Copper caps and cartridges must be fired off, not to be gathered up again until some time before the end of the world."

Consequent upon the state of Oriental diplomacy, there is another disturbing cause to the mining interest—a tremulous state of the money market. I probably could not have selected a phrase, if I had thought it out, so descriptive of the monetary situation as I have hit upon. They do not know what to do with their money in Threadneedle-street, Lombard-street, Cornhill, and Old Broad-street. They are afraid to part with it, and afraid to keep it. In the one case their loss may be great, in the other it is less, but more sure. Well, then, this is the time for investors to turn their attention to old and approved securities, which may be written on the dial when the shadow falls, to remain there when the shadow has passed away clear and luminously.

Mining investments offer now a grand opportunity for evolving from the vaults of "The Old Lady," "The Joint stock Giants," and the more reticent holders of "the right thing" the means of making the mines move and the money grow. There is cheap money, and there is a cheap mining share market. Shares may be bought low, and there is a glut of money. "He that cannot see the thing that is self-evident thou canst not convince." Very natural for the old Puritan divine to say so; but he was probably never in Cornwall, in the Mining Market, or on the Stock Exchange. In these places a man can be made to see with his eyes shut. Well then, let the blindest now discern that British lead mines are the best investment of the day. The mines should be proved and the companies well constituted, and these two things ascertained by a man whose money is looking about for anybody to have it, he is not as wise as Sophocles or Solomon if he do not secure shares.

Ears should be open as well as eyes, and no man that has ever moved within a reasonable area of where mining brokers and miners love to congregate, whether in the metropolis or in the provinces, can have failed to hear of the vast profits made by lead mines. How the echoes of Capel Court or its approaches have rung with the names of Van, West Chiverton, Grogwinion, Great Laxey, West Wye Valley, Roman Gravels, &c. Lead brings a price, lies near the surface, and is always wanted. Where there is lead there is silver in the vast majority of cases, and the silver product pays the working nearly always. It is marvellous how much capital is invested in mines that pay less; it reminds one of the sentimental partiality of a lady for a hopelessly spendthrift son or lover.

There are, however, good opportunities in tin and copper mines, and mines that are both for investment. Shares are low now because prices are low, but the lowness of prices is deterring imports. Tin cannot be sent from so remote a country as Australia, nor copper from across the Southern Atlantic if prices go down lower, and present prices are checking imports. It is when the tide is out we catch crabs—it is now as the ebb of prices prevails that the investor should buy and horde his shares up like a miser, for they will turn to gold. Were investors' heads as full of sagacity as their purses are of the precious metals they would seize the present most favourable moment to embark in mining properties. Of course this should not be done at random. Let them consult experienced agents, brokers, or holders of Cornish property, and they will run no risk. I shall be happy, Mr. Editor, by letter or *viva voce* to give the benefit of my experience to intending investors.

4, *Exchange Buildings, Threadneedle-street, City.* George Budge.

[For remainder of Original Correspondence see this day's Supplement.]

Spirit of the Times.—The second edition of the San Francisco Spirit of the Times—the Christmas number—has just been issued; and may be obtained in this country at the offices of the Southern Pacific Railroad Company, in Moorgate-street. The illustrations and information are similar in character to those given in the Centennial number.

FOREIGN MINES.

JAVALI.—Under date Jan. 6 the manager states that the unusual drought which he referred in his previous report, had prevailed all through the month, interfered with the mills working: 905 tons had been crushed, yielding 9 tons of gold, valued at 643*l.* The expenditure was 865*l.*, showing a loss of 222*l.* month's working.

CHONTALES CONSOLIDATED.—Mr. Danby, Jan. 5: During the past we have mined and brought to mill 528 tons of quartz, producing 105 ozs. or an average of 4 dwts. per ton. The cost of the past month, including on new machinery, has been 509*l.* 15s.; estimated value of the gold, 293*l.* ing a loss of 215*l.* 15s. In the above cost the sum of 104*l.* belongs to the tion account. I have to inform you that one of the pans has been fixed running three days ago, and shall be able to give you the result by next During the last month we had only sufficient water to run 12 heads of stamps accounts for the small amount of quartz crushed, and consequent small am in hopes more rain will fall during this month, if not it will be necessary the engine to work. The most important item in the mining department found, as I expected, the lode in Estrella west of the fault intersected in We have not only found the lode, but driven on it some 20 ft., and cu veinstuff to be richer than east of the slide. The other mines appear to their average value. The new level in San Benito has somewhat improved no doubt soon will prove an important point.

I.X.L. (Gold and Silver).—Lewis Chalmers, Jan. 22: The north drift to engine-shaft at the 200 is in 422 ft.—12 ft. last week. Water increasing, but perfect control. I am not sorry to see it. No material change in the rise from the 200 for ventilation purposes was put up 10 ft.—now 75 ft. tunnel (Buckeye adit) was driven only 6 ft., some of the miners being sick Arnot will not be able to build up his retorts and dry kiln chimney in co of the heavy fall of snow. I have, therefore, retained 32000 in my hands this expense, but otherwise have taken the mill off his hands, and put a m in charge. And I must say he has done a splendid job.

EXCHEQUER (Gold and Silver).—L. Chalmers, Jan. 22: The work week was as follows:—In the 200 ft. level No. 2 stope driven 9 ft., No. 1 st and two sets of stulls put in. Some fine stones of ruby ore on the footwa of the track has been re-laid. In the 100 the large stope was driven ahead good ore. Sent 47 carloads of ore up. No work in the 300 and 400, is com of 10 men having left, not liking my new foreman, who is somewhat of plinarian. Snow 5 ft. deep has sent my teams below: when the snowstorm rates and the weather looks settled I shall send for them, as my best ore the mine. I have written to O'Hara that I expect to be ready for him in He will have a week's work on the furnace before we can start.

UNITED MEXICAN.—Advices from Mr. Edward Hay, dated Guan Dec. 23, and received Feb. 14:—Mine of Jesus Maria y Jose: This mine to be worked by buscones, but during the last fortnight the sales have diminished in value.—New Concern: Adit of San Cayetano, and Mines of Ayres, San Antonio de la Ovejera, El Diamante, and San Cayetano de la In El Diamente several cargas of ore have been thrown down and hacienda. In San Cayetano de la Ovejera we have found some ore, appearance must cover the expenses, but the quantity is small. Some class has also been discovered. Lower down, nearly on the level of the ore has likewise been discovered, assaying about 300 grains of gold per have begun working at this place, as it seems to be a continuation of where the rich ore was found in San Antonio. The water in the shaft has gone down in the last fortnight 1·35 metres. From San Antonio we have remitted about 5 cargas, assaying 4¾ marcs per monton, with of gold per marc. The ore has taken a better appearance, and this week received some cargas, and resumed the grinding in Dolores. The water from San Cayetano has been so abundant that the malacate (horse whim been able to gain more than 2 in. on the influx, and, therefore, I have sumed the work in Los Angelos, as we could not have taken out thrown down in this working. All hands have been employed in cutting level in Santa Elodia. However, I hope soon to report further advance Angelos and San Ignacio.

PROVIDENCIA AND NEW ROSARIO (Silver).—S. Cumins, Jan. 12: last letter I informed the board that at the termination of the current tended to stop the pare of men driving San Miguel end north, and set cross cut west, in order to intersect the San Diego lode. I accordingly the men have driven up to day about 2½ varas (about 7 feet). We in about two or three weeks more we shall intersect the San Diego lode. men ceased driving the San Miguel north end the lode presented a promising appearance. Quemazon, about 2 ft. in width, was discovered centre of the end, and from it the lode yielded a little water, which was running. As the north ground in all the levels above had always been even during the rainy season, we considered this new feature in the San level as a favourable indication of a change, and determined to drive another week. The end was set to six men at the commencement of the and I have just learned from Capt. Skewis that a vugh about 8 in. in been discovered in the end, and that the lode is looking more promising these circumstances I think it well to continue the driving of the end for week. In San Pedro at about the end of the week we met with the lode that we were cross cutting at the time of my last posting. The lode 1½ vara (about 4 ft. 2 in.), and consisted of azogue of moderately Skewis and I are of opinion that a much larger lode, and which ought spond with that of San Diego must be standing still further west. In the lode averages about 1½ vara (about 4 ft. 2 in.) in width, and is not the whole of it is orey, different grades of ore being, of course, distributed the lode, some of it assaying very high indeed, and others being ordinary but making altogether a very good average. As far as we have been able the winze shows a good lode of ore descending in the bottom, and extending north and south. The lode, as stated above, is not very hard and likewise bears well, and yields to good, smooth walls. On the ground can be worked with a pick, and is, therefore, advantageous ing the western. The eastern side likewise carries good strings of ore, pear to descend and form as feeders to the western. As stated in former letters, the eastern side occasionally yields small pockets of In San Guillermo the lode looks as well as ever.

CAPE COPPER.—Capt. Tonkin, Dec. 31: Ookiep: During the past shaftmen have been engaged in fixing plunger-lift at the 80, and other connection with the pumping gear, and we are now (Jan. 6) quite prepared commence the sinking under favourable circumstances, and we hope to the shaft at a rapid rate. The 50 east from No. 19 winze is yielding quality copper ore per fathom. The 80, south-east from No. 19 winze, driven in ground that is worth 8 tons of good ore per fathom. This show the extension of the productive ground in a southern direction. in the 80 is being opened out in a splendid piece of ground, worth cubic fathom. The 80, north east of shaft, is being carried forward that shows a few spots of copper ore. We shall shortly start to sink bottom of the 68 to prove the productive ground passed though in driving winze below the 28 is in moderately productive ground; yielding 4 tons ore per fathom. The 68, east from No. 13 winze, was very poor in the of the month, but is again showing some signs of improvement. The 68, south east from No. 15 winze, continues to look well, and the same applies to the driving and stoping north-east. In the bottom of the stoping around No. 19 winze. At this point we have reached a depth and the ground yields a large quantity of rich ore. In the 58 the from No. 9 and No. 20 winzes continue poor. These levels have not any stoping ground for some time past. The 48 east from No. 14 winze and unproductive ground. The mine altogether is looking very well, stopes are yielding the estimated quantities of copper ore. On the we have been enabled to push the work with vigour, and in order to the low return during the bad season of the year we carefully selected throughout the mine so as to make a heavy return for the closing month.

Spectakel: Capt. Tonkin and Capt. Ninnis, Dec. 26: The trial levels intersected any change of ground since last report. In our dressing we continue to suffer through the scarcity of water, and we have great return 35 tons of copper ore per month. We still have a quantity of serves on the ground, which could be quickly disposed of only for the of water.

Trial Mines: Capt. Tonkin and Capt. Lanksbury, Dec. 15: The rolusberg have not changed since last report. The ground produces a ore, but not enough to value. The levels at this mine are being rapidly and the work is done in a very economical manner. The trial of this been disappointing, but I think the explorations should still be continued. At Nahabeep we have fixed the whim and pumpwork, and it purpose very well. The traction engine is also placed in position to dri ing mill. We have started to sink the shaft, and hope to give the roughly good trial, as the ground is of a very kindly nature for the copper ore, but what the result of deepening the shaft will be it is predict. The 20 fm. level at Narrap yields about 2 tons of very low ore per fathom.

Returns for December: Yield from Ookiep, 1050 tons; from Spectakel —Bills of Lading Received: 606 tons per Antonio Vinent, 381 tons per and 584 tons per Tacna.—Arrival at Port Nolloth: The Lynwood.—Sales Ticketing: 305 tons of ore on 30th ult., at an average of 15s. 2½d. per approximately 7060*l.*; and 620 tons on 13th inst., at an average of 15s. realising approximately 14,750*l.*

LUSITANIAN.—Feb. 6: Palhal: The lode in Taylor's engine shaft 190 is now producing 2½ tons of ore per fathom. At the 50 cross-cut Perez's shaft, there is no change in the ground to notice, nor any lode of In rise No. 105, above the 18, east of Taylor's on Basto's lode, the lode composed of quartz with spots of ore.—Levels on Basto's Lode: In the Taylor's shaft, the lode is 3 to 4 ft. wide, composed of quartz, and at of ore, and in the opposite end of this level the lode is 2 ft. wide, friable quartz; the lode here has become poor, and the men are north part, which is small, and of no value at present, but has a better than the south part. The lode in the 170, west of Taylor's, is composed of quartz. The 150, east of River shaft, is poor, and has been The 150, west of the slide, is on a lode about 2 ft. wide, composed of and small stones of ore. In the 50, east of River shaft, the lode is yielding ½ ton of ore per fathom. The lode is 1 ft. wide in the 90 east, of quartz and flookan, and giving out a large stream of water. The 70 east is in rather a disturbed state: it is not regular in underlie or the 28 east the lode is split into strings and branches.—Carvalhal: The 60, west of the cross cut, south of incline shaft, is 1½ ft. wide, composed and some spots of lead. The north and south lode in the 30, north of lode, is 8 in. wide, containing good stones of blende.

LINARES.—Feb. 7. Pozo Ancho: The lode in the 120, east of San Tomas is very wide, and consists of calcareous spar and quartz. The lode in of Warne's shaft, has changed unfavourably in the past fortnight. The west yields ½ ton of ore per fathom. In the 105, west of Peill's shaft, not so good as it was a short time since, yielding only ½ ton per fathom improvement has taken place in the 90, west of this shaft, the lode being 2 tons per fathom. The lode in the 65 is small, and of no value. Peill's, is suspended while the men sink a winze through to the next lode in the 105, east of the same shaft, is a strong, regular, and well-de and worth 1 ton of ore per fathom. The 95, east of San Francisco shaft, worth 1 ton per fathom; this is opening a great length of fairly productive The 75, in the same direction, is unproductive. This applies also to the San Francisco shaft. Peill's engine-shaft below the 105 is being sunk pare of men. No. 212 winze is holed to the 55. The lode in No. 216 gular and well defined, and yields 1 ton of ore per fathom. No. 217 winze west of Peill's cross cut, also yields 1 ton of ore per fathom. The

up very irregularly in the past month, and the stopes are now yielding quantity of ore. The ordinary works at surface are going on very re- and the machinery is working well. We estimate the raisings for the February at 200 tons.—Quinientos Mine: The lode in the 90, west of haft, contains stones of ore, but not enough to be of any value. In the of Taylor's, the lode is hard, and without ore. The 90 east is without im- t. The 80, east of Addis's, is opening valuable ground, worth 3 tons of thom. The lode in the 65, east of this shaft, is large and strong, with es of ore. The 65, west of San Carlos, the lode is of no value. The same re- In the 80, west of San Carlos, the lode is of no value. The same re- llies to the 80 east. The men are cross-cutting in the north side at the 65, dd's shaft, to prove whether there is any part of the lode there. The e 45 contains good stones of ore. In the 32 cross-cut, north of Judd's, branch has been met with. The men are working well in sinking Tay- below the 90. The ground in Henty's shaft, below the 55, is hard, con- difficult to sink through. The lode in Felipe's shaft, sinking below the th ½ ton of ore per fathom. The raisings for February are estimated at

TOSA.—Feb. 10: La Berta: Guillermo's shaft is suspended, to drive at n of the same. The cross cut east at Guillermo's shaft is in dark lime- xed with lode matter. The cross-cut west, at the bottom of the shaft, is ff dark limestone. The sinking of San Vicente shaft on the west underlie ided, there being nothing but a division to denote lode. The sinking on nderlie has been prevented by the heavy rains during the past few days. in the bottom, although without ore, appears laager and of a favourable The cross cut west of San Vicente shaft, at the 30, is passing through y lines, with clay in limestone. The 30 metre level north, on east under- ng driven to test this lode a little under some ancient workings further The shallow adit to San Vicente shaft is without change. La Cruz deep ing north, is at present without ore.—Asuncion: The ore being all stoped he bottom of the cave level north, trials are being made along the back ittle ore is still to be seen. A little ore is still being got out of the tribute- n the old mines.

For remainder of Foreign Mines, see to day's Supplement.]

COALS.

CONTRACT DEPARTMENT, ADMIRALTY, WHITEHALL, S.W.,
10TH FEBRUARY, 1877.

TENDERS WILL BE RECEIVED until Two o'clock on WEDNESDAY, the 28th February, for the SUPPLY of LAND ENGINE, FURNACE, METAL MILLS, SMITHERY, COKED, BAKERY, and HOUSE HOLD COALS, to Her Majesty's Dockyards, Victualling Yards, Royal Marine Barracks, Naval Hospitals, &c.

The contracts are for specific quantities, and for forward delivery within stated periods.

Tenders may be for the whole or any portion of the quantities required.

Their Lordships do not bind themselves to accept the lowest or any tender, and they reserve to themselves the power of accepting any part of a tender.

Forms of tender, containing all particulars, may be obtained at this office on personal application; or by letter addressed "Director of Navy Contracts, Admiralty, Whitehall, S.W."

FRANCIS W. ROWSELL, Director of Navy Contracts.

THE IRON AND STEEL INSTITUTE.

ANNUAL MEETING, 1877.

PRELIMINARY ANNOUNCEMENT.

THE ANNUAL MEETING will be HELD in LONDON, commencing TUESDAY, March 20th, 1877.

OUTLINE PROGRAMME.

TUESDAY, MARCH 20.—Annual Meeting for receiving Report of Council, electing Officers and Members, and for routine business.

WEDNESDAY, MARCH 21.—Inaugural Address of the President, C.W. Siemens, Esq., LL.D., F.R.S., &c. Reading and discussion of papers.

THURSDAY, MARCH 22.—Reading and discussion of papers.

Gentlemen desirous of contributing papers, or of introducing subjects for discussion at this meeting are requested to give early notice to the undersigned.

Owing to the lamented death of Mr. Forbes, some delay will unavoidably take place in issuing the next number of the Journal, but it is expected to be published in the course of a few weeks.

The Council are open to receive communications from non-members.

A detailed programme will be issued in due course.

JNO. JONES, General Secretary.

7, Westminster Chambers, Victoria-street, London, S.W., Feb. 1, 1877.

BRITISH IRON TRADE ASSOCIATION.

ANNUAL GENERAL MEETING, 1877.

THE BOARD OF MANAGEMENT hereby give notice that the FIRST ANNUAL GENERAL MEETING of the Association will be HELD in LONDON on FRIDAY, March 23rd, 1877.

The Board will present a report of the proceedings of the Association since its establishment. Various subjects bearing upon the Iron and Steel Trades will be introduced for discussion, but before issuing the programme for the meeting the Board are desirous of ascertaining if any member wishes to read a paper, or to suggest a subject for discussion at this meeting. If so, particulars should be sent as early as convenient to the Secretary.

The Association is open to consider any subject that may be of National, as distinguished from local, importance to the Iron Trade in its several branches.

JNO. JONES, Secretary.

7, Westminster Chambers, Victoria-street, London, S.W., Feb. 1, 1877.

ENGLISH AND AUSTRALIAN COPPER COMPANY (LIMITED).

Notice is hereby given, that the ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at the Cannon-street Hotel, London, on THURSDAY, the 22nd day of February instant, at Two o'clock, in pursuance of the Deed of Settlement.

By order,
CHARLES B. ROGERS, Secretary.

Offices, 6, Gracechurch street, London, E.C., 14th February, 1877.

N.B.—The Transfer-books will be closed on Wednesday, the 21st instant, and be re-opened on Thursday, the 15th proximo.

FLAGSTAFF SILVER MINING COMPANY OF UTAH (LIMITED).

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of this company will be HELD at the Cannon-street Station Hotel, Cannon-street, in the City of London, on FRIDAY, the 23rd day of February instant, at Two o'clock precisely, for the purpose of passing Special Resolutions to alter the Articles of Association.

By order, A. A. DE METZ, Secretary.

8 and 9, Great Winchester-street, London, 13th February, 1877.

NOTICE.

ALL PERSONS having CLAIMS against the GALWAY MINING COMPANY (LIMITED), in Liquidation, are requested to LODGE the SAME, properly vouched, with the undersigned, within a fortnight from this date, with a view to payment; and PERSONS INDEBTED to the said company are also requested to PAY their CALLS or ACCOUNTS to the subscriber within the same time.

J. H. M. BAIRNSFATHER, Solicitor.

Hamilton, 10th February, 1877. (Agent for the Liquidators.)

LLAN GAN LEAD MINE.—A FEW SHARES in the above FOR SALE.

Apply, "H.," MINING JOURNAL Office, 26, Fleet-street, London.

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State experience, salary (or interest), &c., to "W.," MINING JOURNAL Office, 26, Fleet street, London.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Feb. 9	Minera	36	£14 15 0	Panther Lead Company.
—	ditto	64	14 15 6	St. Helens Smelting Co.
—	ditto	15	14 6 6	Walker, Parker, & Co.
—	ditto	7	14 6 0	Nevill, Druce, & Co.
13	Leadhills	100	14 6 6	Walker, Parker, & Co.
14	Pennerley	50	14 6 6	Burry Port Company.
—	Plynlimmon	20	14 10 0	Panther Lead Company.
15	Old Treburgett	25	26 18 6	Nevill, Druce, and Co.
—	ditto	5	21 9 0	Treffry's Estate.
15	Tankerville	100	15 2 6	George Burr.

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
Feb. 9	Minera	82	£ 5 11 0	Richardson & Co.
—	ditto	8	4 17 6	Kenrick & Son.
—	ditto	19	5 10 0	Richardson & Co.
—	ditto	6	5 5 0	Kenrick & Son.
—	ditto	30	4 14 6	Dillwyn & Co.
14	New Cwm Elan	20	4 14 0	Swansea Vale Spel. Co.

BLACK TIN.

Date.	Mines.	Tons	c.	q.	lb.	Price per ton.	Amount.	Purchasers.
Feb. 8	Balmynheer	12	3	5	0	£33 10 0	£ 21 8 7	—Redruth Co.
10	Pedn-an-drea	11	3	0	6	43 10 0	485 2 10	—Carvedras.

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal*, post free, at the price of $8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, 23, Murray-street, New York; or, direct to our Office, 26 Fleet-street, E.C.

VALUABLE SHARES IN THE BRITTANY MINERALS COMPANY (LIMITED).

MESSRS. RUSHWORTH, ABBOTT, AND RUSHWORTH WILL SELL, BY AUCTION, at the Mart, Tokenhouse-yard, E.C., on Wednesday, February 28, at One for Two, in Twelve Lots, THREE THOUSAND SHARES (of £1 each) in the

BRITTANY MINERALS COMPANY (LIMITED),

Comprising 1500 shares fully paid-up, and 1500 shares upon which 15s. per share has been paid.

Particulars may be had of Messrs. PARKER and BRAILSFORD, Solicitors, Sheffield; of the Auctioneers, 22, Saville-row, W., and 19, Change-alley, E.C.; and at the Mart.

GLOUCESTERSHIRE, IN THE FOREST OF DEAN.

TWO VALUABLE GALES OR COLLIERIES, known as the RISING SUN ENGINE COLLIERY (freehold) and UNION COLLIERY (long leasehold), extending together over about 320 acres, and comprising several VALUABLE SEAMS of COAL, with good railway accommodation. The property is situate about three miles from Coleford and four from Lydney, traversed by the Bixlade and Dark Hill Valleys, and is on the Severn and Wye Railway, connecting Lydney on the Bristol Channel with Lydbrook on the Ross and Monmouth line, a branch of which line runs through the property. These collieries are well worthy the attention of coalowners and enterprising colliers, as shafts can be opened without any unusual expense, and with the certainty of finding coal, obviating the risk commonly attendant on the opening of new collieries.

MESSRS. DANIEL SMITH, SON, AND OAKLEY have received instructions to OFFER the above VALUABLE PROPERTIES FOR SALE, BY AUCTION, at the Mart, Tokenhouse-yard, E.C. (unless previously sold or let by private contract), on Wednesday, the 14th of March, in Two Lots.

Lot 1 will comprise the RISING SUN ENGINE COLLIERY (200 acres), and Lot 2 the UNION COLLIERY (330 acres). The vendors are prepared to negociate for the letting of these mines at improved royalties. The royalties payable are moderate, and the purchasers will be entitled to work a very large quantity of coal without payment in respect of the dead rent already paid.

Particulars and plans may be obtained of Messrs. GRAHAM and SONS, Solicitors, Abingdon, Berks; of Messrs. PRIOR, BIGG, CHURCH, and ADAMS, Solicitors, 61, Lincoln's Inn-fields, W.C.; at the Bell Hotel, Gloucester; at the Mart; and of the Auctioneers, 10, Waterloo-place.

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GLAMORGANSHIRE.

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THE VALUABLE COLLIERY, known as BRAICH-Y-CYMMER, near BRIDGEND, now working the Nos. 2 and 3 RHONDDA SEAMS, with the ABERDARE STEAM MEASURES beneath, FOR SALE, on easy terms, as a going concern.

For particulars, apply to JOHN D. BLAKE, Esq., 5, Bell-yard, Doctors' Commons, E.C.; or to Messrs. JAMES and EDWARDS, Accountants, 110, Cannon street, E.C.

MINING PROPERTIES FOR SALE.—SEVERAL bonâ fide BROWN HEMATITE, MANGANIFEROUS IRON, and SILVER-LEAD MINES, situated in the Province of MURCIA, SPAIN, TO BE SOLD.

Apply to Sr. D. JOSE BOWVON, Del Comercio, Cartagena.

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Apply, MILES PONSONBY, Esq., Hale Hall, near Beckermet, Carnforth.

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NOTICE IS HEREBY GIVEN, that the Directors of HOLMBUSH (LIMITED) are prepared to RECEIVE TENDERS for the PURCHASE of their FEBRUARY PARCEL of ARSENICAL ORES (estimated at about 600 tons), containing various Metals in addition to Arsenic.

The conditions of sale and Forms of Tender may be had on application to the company's agents, Messrs. H. G. LORD and Co., 146, Palmerston Buildings, Bishopsgate-street, London, E.C.

By order of the Board, S. BOOME, Registrar.

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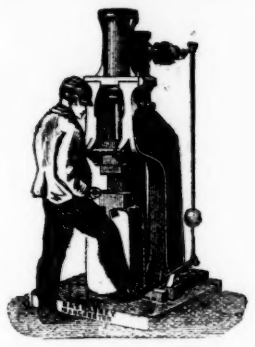

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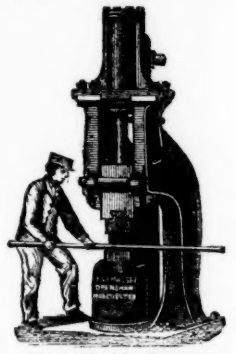

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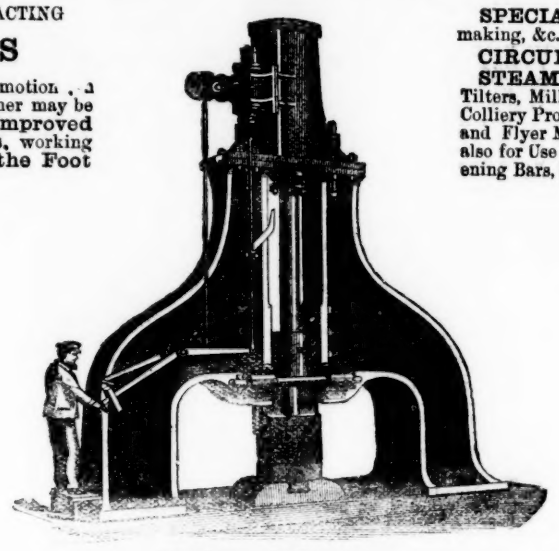

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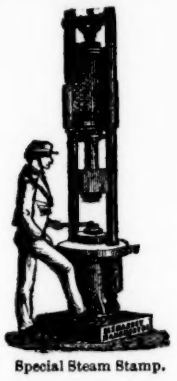

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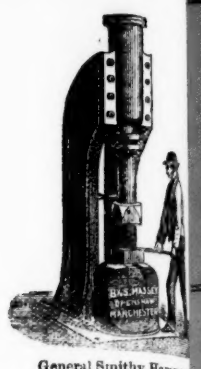

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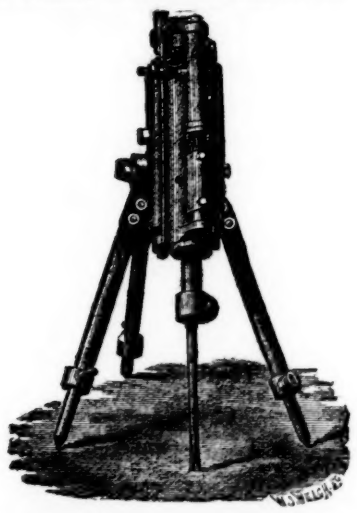

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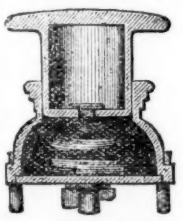

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15000	Balmynheer, t, Wendron (4000 to is.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
30000	Bampfylde, c, t, mn., Devon*	1 0 0	1¾	⅜ 1	0 2 0	0 2 0	June 1873
[illegible]00	Botallack, t, c, St. Just§	119 5 0	30	25 30	619 15 0	5 0 0	Aug. 1872
4000	Brockwood, c, Buckfastleigh	1 16 0	2½	2¼ 2½	3 16 0	0 2 0	Nov. 1875
2000	Bryn Alyn,* l, Denbigh. (10l. sh.)	8 0 0	8½	8 8½	0 7 0	0 7 0	Jan. 1877
5048	Cargoll, s-l, Newlyn§	6 6 0	7	5 5½	4 16 3	0 12 6	Oct. 1872
6400	Cashwell, l, Cumberland*	2 10 0	2½	2½	1 9 6	0 2 0	Aug. 1876
1000	Carn Brea, c, t, Illogan†	35 0 0	37	35 37½	308 0 0	1 0 0	Feb. 1874
2450	Cook's Kitchen, t, Illogan†§	23 9 9	3½	3¼ 3½	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	1 0 0	4½	4 4½	116 10 0	0 12 0	May 1872
4296	Dolcoath, c, t, Camborne	10 14 10	37	35 37	111 1 3	0 7 6	Jan. 1877
5000	East Black Craig,* l., Scotland	5 0 0	6¼	5¾ 6¼	0 10 0	0 10 0	Feb. 1877
6144	East Caradon, c, St. Cleer†	2 14 6	1⅜	1⅛ 1⅜	14 19 0	0 2 0	Oct. 1872
800	East Darren, l, Cardiganshire	32 0 0	—		235 10 0	1 0 0	Aug. 1876
6400	East Pool, t, c, Illogan	0 9 9	11	10½ 11½	14 18 3	0 2 0	Dec. 1876
2800	Foxdale, l, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1¼	1 1¼	0 12 4	0 0 6	Mar. 1877
18000	Great Dyliffe,* l, Montgomeryshire	4 0 0	5	4 5	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, l, Isle of Man*	4 0 0	21	20 21	21 3 0	0 10 0	Jan. 1877
615	Great Retallack, l, bl, Perranzabuloe	5 18 6	1¼	1 1½	0 1 6	0 1 6	May 1876
25000	Great West Van, l, Cardigan*	2 0 0	½	⅜ ½	0 2 0	0 1 0	Aug. 1874
5908	Great Wheal Vor, t, c, Helston†§	41 12 6	¾	½ ¾	15 19 6	0 2 6	June 1872
6400	Green Hurth, l, Durham*	0 6 0	3	2¾ 3	1 12 0	0 4 0	Oct. 1874
20000	Grogwinion, l, Cardigan*	2 0 0	5¾	5 5½	0 10 0	0 2 6	Sept. 1876
9830	Gunnislake (Clitters'), t, c	5 5 0	2⅝	2½ 2⅝	0 13 9	0 1 0	Oct. 1876
1024	Herodsfoot, l, near Liskeard†	8 10 0	2¾	2¼ 2¾	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, c, Calstock*†	1 0 0	¾	½ ¾	0 1 0	0 1 0	Nov. 1875
60000	Holmbush, a, c, s-l, Callington*	1 0 0	1¼	1 1¼	0 0 6	0 0 6	Jan. 1877
25000	Killaloe, sl, Tipperary	1 0 0	—		0 3 11½	0 0 6	Mar. 1873
400	Lisburne, l, Cardiganshire	18 15 0	80	70 80	579 10 0	1 0 0	Jan. 1877
14000	Llanidloes,* l, Montgomery	3 0 0	3	2 3	0 4 6	0 1 6	Nov. 1875
5120	Lovell, t, Wendron	0 16 0	—		0 17 6	0 1 6	Jan. 1874
9000	Marke Valley, c, Linkinhorne	5 0 6	1⅛	1 1⅛	7 15 0	0 2 0	Jan. 1876
11000	Melindur Valley, l, Cardigan*	3 0 0	1½	1 1½	0 7 2	0 3 7	Jan. 1875
9000	Minera Mining Co., l, Wrexham*	5 0 0	20	19 21	66 16 2	0 8 0	Feb. 1877
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	5½	5⅜ 5½	23 11 6	0 3 6	Jan. 1876
512	North Busy, c, Chacewater	3 9 6	—		0 10 0	0 10 0	Dec. 1875
10189	North Hendre, l, Wales	2 10 0	—		1 7 6	0 3 6	Dec. 1876
2000	North Levant, t, c, St. Just§	12 2 0	—		4 13 0	0 12 0	Sept. 1873
27855	Old Treburgett,* s-l, ordinary shares	1 0 0	—		0 0 9	0 0 9	Feb. 1874
9258	Old Treburgett,* s-l (10 per ct. pref.)	0 10 0	½	¼ ½	0 1 4½	0 0 6	July 1874
5000	Penhalls, t, St. Agnes	3 0 0	2¾	2½ 2¾	3 13 6	0 2 0	July 1875
45793	Penstruthal, t, c, Gwennap	2 0 0	¾	½ ⅝	0 2 8	0 0 8	Nov. 1875
12000	Phœnix, & W. Phœnix, t, c, Link.§	3 4 9	4¼	4 4¼	2 9 6	0 4 0	Nov. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	—		0 14 0	0 1 3	Jan. 1876
1120	Providence, t, Lelant†§	18 6 7	2¼	2 2¼	104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, l, Salop*	7 10 0	14	13½ 14	6 13 0	0 8 6	Oct. 1876
512	South Caradon, c, St. Cleer	1 5 0	120	110 120	734 0 0	3 0 0	Jan. 1877
6123	South Condurrow, t,c, Camborne‡	6 5 6	6½	6 6½	2 6 0	0 4 0	Jan. 1877
12000	St. Harmon,* l, Montgom	3 0 0	3½	3 3½	0 3 0	0 3 0	Jan. 1877
10000	So. Pr. Patrick,* s-l (8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12000	Tankerville, l, Salop*	6 0 0	8¾	8¼ 8½	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	20	19 20	49 18 6	0 5 0	Nov. 1876
15000	Van, l, Llanidloes*	4 5 0	37	35 37	19 19 6	0 18 0	Dec. 1876
3900	W. Chiverton, l, Perranzabuloe†	12 10 0	19½	18 19	55 0 0	0 10 0	Jan. 1877
1783	West Poldice, St. Day	10 0 0	13	11 13	1 19 0	0 4 0	July 1876
512	West Tolgus, c, Redruth	95 10 0	63	60 62	17 15 0	1 0 0	Dec. 1876
2048	West Wheal Frances, t, Illogan	27 13 9	4½	4½ 5	3 12 6	0 5 0	Oct. 1872
12000	West Wye Valley,* l, Montgomery	3 0 0	3¾	3½ 4	0 6 0	0 3 0	Nov. 1876
512	Wheal Basset, c, Illogan†§	17 2 6	14	12 14	638 10 0	1 10 0	Aug. 1872
1024	Wheal Eliza Consols t, St. Austell	20 0 0	—		10 0 0	4 0 0	Feb. 1876
2048	Wheal Jane, t, Kea	2 13 10	2	1½ 2	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, t, St. Agnes	5 4 6	3¼	3 3½	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, t, St. Just§	86 5 0	140	130 140	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, t, Redruth	2 0 0	4½	4¼ 4½	0 3 0	0 2 0	Dec. 1875
25000	Wicklow c, sul, t, Wicklow	2 10 0	2	1⅞ 2	52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	6	5 6	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, l, Spain*†	2 0 0	2½	2 2½	1 16 3	0 1 6	Oct. 1876
30000	Almada and Tirito Consol., s*†	1 0 0	½	¼ ½	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2¼	1¾ 2¼	0 18 0	0 2 6	Aug. 1876
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1875
15000	Birdseye Creek, g, California*	4 0 0	⅞	¾ ⅞	0 14 0	0 2 6	June 1874
12320	Burra Burra,* c, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1875
20000	Cape Copper Mining,*† So. Africa	7 0 0	41	39 41	26 15 0	1 0 0	Dec. 1876
40000	Cedar Creek, g, California*	5 0 0	¾	⅝ ¾	0 5 0	0 2 6	June 1873
15000	Chicago, s, Utah*	10 0 0	5	4½ 5	2 8 0	0 4 0	Nov. 1876
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	1¼	¾ 1¼	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, c, Chili* (£20 shares)	16 15 0	—		7 8 5	0 2 6	Jan. 1876
100000	Don Pedro North del Rey*†	0 16 0	⅝	½ ⅝	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt and Aurora, s, Nevada*†	10 0 0	9¼	8½ 9	1 8 0	0 3 0	Dec. 1876
50000	Emma,* g, s, Utah	20 0 0	⅞	⅝ ⅞	3 12 0	0 6 0	Dec. 1872
70000	English and Australian, c† S. Aust.	2 10 0	1⅝	1⅜ 1⅝	2 18 9	0 2 0	Mar. 1873
80000	Flagstaff, s, Utah*	10 0 0	3¾	3⅝ 3⅞	4 2 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	2 0 0	6¾	6¼ 6¾	6 2 6	0 6 8	Oct. 1876
[illegible]5000	Frontino & Bolivia, g, New Gran.*†	2 0 0	1⅝	1⅜ 1⅝	0 1 0	0 1 0	June 1876
30000	Gold Run, hyd.	1 0 0	—		0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 5	June 1873
20000	Last Chance, s,* Utah	5 0 0	⅞	¾ ⅞	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	7	6½ 7	16 8 2	0 9 0	Oct. 1876
65000	London and California, g*†	2 0 0	⅝	⅜ ⅝	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	—		1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
18000	Prussian Mining & Ironworks, cl, i.	30 0 0	—		6 0 0	3 0 0	July 1873
10000	Pontgibaud, s-l, France†	20 0 0	23	21 23	23 1 1	1 11 1	Nov. 1876
100000	Port Phillip, g, Clunes*†	1 0 0	¾	½ ¾	1 8 0	0 1 0	Jan. 1872
54000	Richmond Consols, s, Nevada*†	5 0 0	7	6¾ 7	3 9 0	0 7 6	Oct. 1876
40000	Santa Barbara,* g, Brazil	0 10 0	2⅝	2⅜ 2⅝	0 2 6	0 1 3	Oct. 1876
120000	Scottish Australian Mining Co.*†	1 0 0	2	1¾ 2	17½ per cent.		Nov. 1876
80000	Scottish Austral. Mining Co., New	0 5 0	⅝	⅜ ⅝	17½ per cent.		Nov. 1876
112500	Sierra Buttes, g, California*†	2 0 0	1¾	1½ 1¾	1 16 0	0 2 0	Oct. 1876
60000	South Aurora, s, Nevada*	5 0 0	⅜	¼ ⅜	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock and multiples dealt in)			290 310	½ year	20 p. ct. for	Dec. 1876
15000	Sweetland Creek, g, California*†	4 0 0	⅜	⅛ ⅜	3 8 0	0 2 0	June 1876
20000	Tolima, j, s* So. America	5 0 0	3¼	3 3¼	0 11 6	0 6 6	May 1874
25000	Victoria (London)*, g, Australia	1 0 0	1¼	1 1¼	0 11 10½	0 0 10	Aug. 1876
15000	Western Andes, s,* New Granada	5 0 0	—		12 per cent. per an		July 1876
21000	W. Prussian (5500 pref. sh. 10l. paid)	10 0 0	11¼	11 11¼	0 16 0	0 8 0	Sept. 1876

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, g, Victoria*	2 10 0	—		Sept. 1872
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	5½	5 5½	Fully pd.
10000	Australian Central, g* (also 6000 deferred shares)	1 0 0	—		Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, hyd., California	5 0 0	—		Fully pd.
50000	Braganza, g, Brazil*†	0 15 0	3¼	3 3¼	Fully pd.
12000	Camp Floyd, s, Utah*	10 0 0	—		Oct. 1870
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
50152	Chontales, g, s, Nicaragua*†	2 0 0	—		Fully pd.
16000	Condes of Chili, s-l	5 0 0	½	¼ ½	Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	5	4¾ 5¼	Fully pd.
100000	Exchequer, g, s, California*†	1 0 0	—		Dec. 1871
40000	Holcombe Valley, g,* California	1 0 0	2	1¾ 2	Fully pd.
6000	Hornachos,* s-l, (£10 shares) Spain	10 0 0	—		July 1873
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	13¾	13¼ 13¾	Jan. 1874
100000	I. X. L., g, s, California*	1 0 0	—		Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	1	⅞ 1	Fully pd.
3500	La Manche, l, Newfoundland	10 0 0	⅝	⅜ ⅝	Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	—		Fully pd.
75000	Malabar, g, Colombia* (67165 issued)	1 0 0	—		Mar. 1876
40000	Malpaso, g, Colombia* (7400 pref. shares, fully paid)	1 0 0	⅝	⅜ ⅝	Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	⅞	⅝ ⅞	Fully pd.
6000	Monte Loreto, g, c, Italy*	5 0 0	—		Fully pd.
4588	New Bensberg, i, l, Germany	5 0 0	—		Fully pd.
66000	New Quebrada, c, Venezuela*	5 0 0	par		Nov. 1876
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	3½	3 3½	Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	4 0 0	4	2¾ 3	Fully pd.
50000	Panulcillo, c, Chili*† (£80000 debentures)	4 0 0	4¼	4 4¼	Sept. 1875
60000	Pestarena United, g, Italy*†	3 0 0	1¾	1¼ 1¾	Fully pd.
50000	Providencia and New Rosario, s, Mexico*	1 0 0	⅜	⅛ ⅜	Fully pd.
50000	Rica, g, Colombia* (40000 issued)	1 0 0	—		Fully pd.
£2,181,000	Rio Tinto,* c, Huelva, Spain	Stock	¼	⅛ ¼	Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	67	64 66	Fully pd.
30000	Russia Copper, Orenburg and Ufa*†	10 0 0	⅛	⅛	July 1872
25000	San Pedro, c, Chili*	2 0 0	2½	2 2½	Fully pd.
10000	Silver Plume, s, Colorado*	2 0 0	1	¾ 1	Fully pd.
37500	Snowdrift, s, Colorado*	1 0 0	—		Fully pd.
80000	Tecoma, s, Utah*	2 0 0	—		Fully pd.
20000	Thornhill Reef, g, Australia*	10 0 0	¾	½ ¾	Fully pd.
43174	United Mexican, s, Mexico*†‡	1 0 0	—		Fully pd.
14000	Utah, g, s-l, Utah*	28 15 3	2¾	2¼ 2¾	May 1875
75000	Yorke Peninsula, c, South Australia	5 0 0	—		Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	½	¼ ½	Fully pd.
		1 0 0	1¼	1 1¼	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	71	73
Bolivia, 6 per cent.	18	20
Brazilian, 1865, 5 per cent.	95	97
Chilian, 1866, 7 per cent.	101	104
City of Providence, 5 p.c. coupon bonds	95	97
Egyptian, 1862, 7 per cent.	48½	49½
Do., 1868, 7 per cent.	50	51
Do., 7 per cent., V.M.L.	63	67
Do., 9 per cent. guar.	73	78
Do., 7 per cent., K.M.L.	37	39

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. cent.	68	73
Do., 5 per cent., 2d issue	51	56
Do., 6 per cent., 3d issue	57	62
Do., 1872, 4th issue	50	55
Do., 1873, 5th issue	51	55
Peruvian, 1870, 6 per cent.	17½	18½
Do. 1872, 5 per cent.	15	18½
Russian, 5½ per cent. L. Mort.	72	75
Spanish, Quicksilver Mort. 5 p. cent.	93	95
United States Mort., 6 per cent.	94½	95½

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk	Clos. pr.
40000	Aberdaunant, l, Llanidloes*	1 0 0	1⅝	1⅜ 1⅝
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	
7800	Alvig. & Burng.,* t, St. Aust. (3l. sh.)	2 0 0	2⅞	2⅝ 2⅞
18000	Ambrose Lake, t, c, Liskeard	1 18 6	—	
12000	Assheton, l, Carnarvonshire*	5 0 0	1½	1¼ 1½
50000	Ballycummisk,* c, Schull	2 0 0		
12000	Bedford United, c, Tavistock	1 17 6	1	¾ 1
28000	Belstone,* c, Devon (27,000 fy. pd.)	1 0 0	2¾	2¼ 2¾
15000	Blaen United,* s-l, Cardigan	1 0 0	1⅛	⅞ 1⅛
3937	Blue Hills, t, c, St. Agnes	3 5 0	—	
30000	Bodidris,* l, bl, Denbighshire	1 0 0	1¼	1⅛ 1¼
2000	Bowden Hill,* mn	1 0 0	—	
6000	Bradwell Moss Rake	1 0 0	1½	⅞ 1½
20000	Brynambor, l, Cardigan	1 0 0	—	
4898	Bwadrain, s-l, Cardigan*	4 0 0	—	
30000	Caldbeck Fells, l, Cumberland*	3 0 0	—	
5584	Carn Camborne, c, t, Camborne	5 3 6	⅜	¼ ⅜
15000	Cathedral, t, c, Gwennap*	1 10 0	1⅜	1⅛ 1⅜
20000	Central Foxdale, l, I. of Man* (2l. sh.)	1 0 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
128	Clementina, l, Llanrwst	20 0 0	35	30 40
7500	Combellack,* t, Wendron	2 0 0	2¼	2 2¼
24[illegible]00	Court Grange, s-l, Cardiganshire	1 0 0	1⅛	1 1⅛
20000	Cwm Dwyfor,* c, s-l, Carnarvonsh	1 0 0	—	
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	
512	D'Eresby Mountain, l, bl, Llanrwst	20 0 0	—	
10000	Denbighshire Consolidated, l*	3 0 0	3	2½ 3
12000	Derwent,* l, Durham	4 0 0	4	3½ 4
658	Ding Dong, t, Gulval	51 9 6	4	3½ 4
10000	Duoby Syke, l, Durham*	0 12 6	⅝	½ ⅝
512	East Basset, c, Redruth†‡	77 7 6	—	
4000	East Chiverton, l, Perranzabuloe	6 14 6	2½	2 2½
6000	East Goginan, l, Cardigan	2 0 0	2	2
6000	East Tywarnhaile, c, St. Agnes	0 10 0	—	
18000	East Van, l, Llanidloes*	5 0 0	8	7 7½
20000	Elgar,* s-l, Cardiganshire	1 0 0	1¼	1 1⅛
5000	Frank Mills, l, Christow	5 6 0	⅝	½ ⅝
8000	Fronveilan, l, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3950	Gawton, c, Tavistock	4 3 6	⅝	⅜ ⅝
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	—	
10000	Glan Severn, s-l, Flintshire	1 0 0	—	
14000	Glenroy,* s-l, Isle of Man	4 0 0	2	1½ 2
10000	Glyn,* l, Llanidloes	2 0 0	2¼	2 2¼
12000	Goginan, & Level Newydd, Card., l	2 10 0	—	
100000	Gold, g, Merionethshire	1 0 0	—	
20000	Goreu,* s-l, Carmarthen	1 0 0	1¼	1⅛ 1¼
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	4¾	4 5
20000	Gt. E. Foxdale, l, I. of Man (1l. sh)	0 15 0	—	
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	
6000	Gt. Wheal Eleanor, t, North Bovey	1 0 0	3	2 3
18000	Grosvenor, l, Holywell (£1 sh.)	0 7 0	—	
10000	Harehope Gill,* l, Durham (£1 sh.)	0 5 0	1	¾ 1
6400	Harwood,* l, Durham	0 15 0	1	¾ 1
5000	Hush Eisteddfod Miners,* l	2 0 0	—	
200	Islay,* l, Scotland	28 0 0	—	
6000	Killifreth, t, Chacewater	1 18 0	1½	1 1½
25000	Kingston Con., s-l, Stoke Climsland	1 0 0	—	
12000	Ladywell,* l, Salop	2 10 0	1½	1 1½
12000	Ditto, 10 per cent. pref., 1l. each	0 5 0	⅜	¼ ⅜
20000	Leadhills,* l, Lanarkshire	6 0 0	6¾	6¼ 6½
2500	Levant, c, t, St. Just	9 6 6	—	
15000	Llanlivery Cons., t, c, ars, Llanliv.	1 0 0	1¼	1¼
25000	Llanrhaiadr, l, Montgomery*	2 0 0	—	
30000	Llanrwst,* l, Carnarvon	2 0 0	3¾	3½ 3¾
15000	Llwyn Teify,* s-l, Cardigan	1 0 0	—	
6000	Medlyn Moor, t, Wendron	1 7 10	—	2
10000	Mellanear Copper, Hayle*	1 0 0	—	
13000	Monydd Gorddu, l, Cardigan*	5 0 0	4	3½ 4
12000	Mount's Bay, c, Marazion	1 0 0	—	
4000	Nanty, l, Montgomeryshire*	1 0 0	—	
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	
15000	Nascent Copper*	1 0 0	—	
12000	Neptune,* c, Perranuthnoe	0 5 0	—	
10000	New Beldon, l, Northumberland*	1 0 0	—	
3000	New Chiverton,* l, Perranzabuloe	6 0 0	6½	6¼ 6½
20000	New Consols, s, a, Stoke Climsland*	3 0 0	1¼	1 1¼
8000	New Dolcoath, t, c, Camborne*	3 0 0	1¼	1⅛ 1¼
20000	New East Foxdale, s-l, Isle of Man	0 15 0	—	
16000	New Fowey Consols, t, St. Blazey*	3 0 0	2	1½ 2
1492	New Hendra, t, Breage	2 19 0	1⅛	1⅛ 1¼
10000	New North Pool,* c, Illogan	3 0 0	2	1½ 2
5000	New St. Agnes,* t, St. Agnes	5 0 0	5¼	5 5¼
3200	New South Merllyn, l, Flint*	2 10 0	—	1½ 2
4000	North Cornwall, l, Cornwall	5 0 0	—	5 5¼
17000	North Laxey,* Isle of Man	2 0 0	1	¾ 1
20000	North Prince Patrick,* l, Holywell	1 0 0	1¼	1 1¼
1000	North Rosewarne, c, Gwinear	6 2 6	—	
8000	North Treleigh Wood, t, Redruth*	1 0 0	1¼	1 1¼
5936	North Treskerby, c, St. Agnes	3 17 10	—	
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
6000	Old Talargoch, l, Flintshire*	2 0 0	—	
2500	Old Tincroft, c, t, Lelant*	4 0 0	4	3 4
6400	Oola Hills,* s-l, Limerick	5 0 0	—	
12000	Pandora,* l, Carnarvon	2 0 0	2½	2 2½
16923	Parys Mountain,* c, Anglesea	3 0 0	⅝	½ ⅝
4000	Pateley Bridge, l, Yorkshire	5 0 0	3	2 3
6000	Pedn-an-drea Consols, t, Redruth	5 0 0	5¾	5¼ 6
6000	Pennant, l, bar, North Wales*	5 0 0	6	5½ 6½
12000	Pennerley, l, Shropshire*	2 0 0	⅞	⅝ ⅞
12000	Plynlimmon, l, Llanidloes*	2 0 0	⅜	¼ ⅜
648	Polrose, t, Breage	21 0 0	—	
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	2	1½ 2
2000	Prideaux Wood, t, Llanivery	5 0 0	—	
12800	Prince of Wales, c, Calstock‡	1 19 6	¼	⅛ ¼
10000	Red Rock,* l, Cardigan	2 0 0	2¾	2¼ 2¾
6000	Relistian Consols, c, Gwinear	0 10 0	⅜	¼ ⅜
15000	Rookhope, l, Durham*	1 10 0	1	⅞ 1
6000	Rosewarne United, c, t, Gwinear	1 10 0	—	
3000	Russell, s-l, Swymbridge	0 5 0	—	
5000	Silvercross,* c, t, Marazion	1 0 0	¾	½ ¾
4200	Snowbrook, s-l, Montgomery	5 0 0	5¼	5⅛ 5¼
12000	So. Bwadrain, s-l, Llanbadarnfawr	0 10 0	—	
5[illegible]00	South Carn Brea, c, t, Illogan	3 10 0	¼	⅛ ¼
6000	So. Cwmystwith, l, Cardiganshire	2 0 0	3¼	3 3½
5000	South Darren, l, Cardigan*	1 10 0	—	
512	South Dolcoath, c, t, Redruth	12 5 0	1½	1 1½
12000	South Lisburne, l, bl, Cardigan*	0 12 6	—	
18000	South Roman Gravels, l*	1 10 0	1	¾ 1
6000	South Roskear, t, c, Camborne	6 10 0	5	4 5
6000	South Tolcarne, t, c, Camborne	1 9 0	¾	½ ¾
12000	South Van,* l, Montgomeryshire	1 0 0	—	
937	South Wheal Crofty, c, Illogan	36 10 10	16	17 18
4500	South Wh. Frances, c, Illogan†	7 4 4	1	¾ 1
432	Spearn Moor, t, Penzance‡	46 17 9	—	
6090	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
10000	St. Patrick, l, Halkin, Holywell*	1 0 0	1½	1¼ 1½
6000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
16000	Sunnyside,* l, Durham	2 0 0	2½	2 2½
30000	Talybont,* s-l, Talybont	1 0 0	—	
14000	Tan y-Bwlch, l, Carnarvon	1 0 0	1¼	1 1¼
6400	Teesdale,* l, Durham	1 0 0	1	1
14000	Teign Valley, l, bar., Bridford	1 0 0	—	
10000	Temple, l, Cardigan*	1 0 0	2½	2 2½
12000	Trebeigh Consols, s-l, St. Ive	0 5 6	⅜	¼ ⅜
5000	Treleigh Wood, t, Redruth	5 16 0	—	
547	Trelyon Consols	15 0 0	⅝	⅜ ⅝
12000	Trethellan, s-l, Crantock*	2 0 0	—	
256[illegible]	Trumpet Consols, t, Helston§	10 0 0	—	
640	Truro*, l, Nerquis, Flintshire	10 0 0	10	10
25000	Unity Wood, t, c, Kenwyn	4 5 6	⅝	½ ⅝
20000	Van Consols, l, Llanidloes*	2 10 0	2⅜	2 2¼
12000	West Assheton, l, Carnarvon	1 0 0	1½	1¼ 1½
6000	West Basset, c, Illogan†‡	5 6 8	5	4 4½
20000	West Bryn Ceiyn,* l, Flintshire	1 0 0	—	
12500	West Combmartin, s-l, North Devon	1 0 0	1⅜	1¼ 1⅜
3000	W. Craven Moor, l, Pateley Bridge*	10 0 0	13¼	12¼ 13¼
5000	West Godolphin, t, c, Breage	1 16 0	3¼	2¾ 3¼
12000	West Goginan,* Cardiganshire	3 0 0	2	1 1½
15000	West Great Work, t, Breage*	2 0 0	2¼	2⅛ 2¼
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
12000	W. Maria & Fortescue, t, c, Lamer.	4 14 0	⅜	¼ ⅜
3000	West Mary Ann, l, Menheniot	0 3 6	⅜	⅛ ⅜
50000	West Milwr, s-l, Flint	1 0 0	—	
12000	West Pant-y-Go, s-l, Flint*	1 0 0	—	
4000	West Pateley Bridge, l, Yorkshire	5 0 0	5¼	5 5¼
1403	West Polbreen, t, St. Agnes	3 5 0	—	
10000	West Roskear, t, s-l, bl, c, Camborne	0 12 0	3	2½ 3
15000	W. Tankerv*, l. (in 3000 sh. 15 p.c. pref.)	3 0 0	2	1½ 2
15000	West Treasvean,* c, t, Gwennap	1 0 0	1¼	1 1¼
3000	West Wheal Peevor, t, Redruth	0 10 0	2¾	2½ 2¾
600	West Wheal Seton, c, Camborne†	47 0 0	35	30 35
6000	Wheal Agar, c, Illogan	11 10 0	3½	3 3½
6000	Wheal Argus, t, Sancreed	0 10 0	—	
741	Wheal Basset and Grylls, t	9 18 6	—	
6000	Wheal Coates, t, St. Agnes	2 0 0	2	1½ 2
6000	Wheal Crebor, c, Tavistock	4 1 0	3½	3 3½
8400	Wheal Emma, t, c, Buckfastleigh	1 10 0	—	
5179	Wheal Grenville, c, Camborne*	1 18 6	½	⅜ ½
12000	Wh. Mary Hutchings,* t, Plympton	1 14 0	—	
25000	Wheal Newton, a, c, s, t, Callington*	1 0 0	2¼	2 2¼
3000	Wheal Peevor, t, Redruth	6 7 6	4¾	4½ 4¾
12000	Wheal Russell, c, Tavistock	2 0 6	⅜	¼ ⅜
4096	Wheal Uny, t, c, Redruth	13 6 6	2	1½ 2
480	White Cliff,* l, Llanrwst	4 0 0	4	4

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.
£100	Abbot, John, and Co. [L.]	£75 0 0
15	Albion Steel and Wire Co. [L.]	14 0 0
5	Alltami Colliery Co. [L.]	5 0 0
100	Ashbury Co. [L.]	90 0 0
10	Bagnall, John, and Sons [L.]	10 0 0
10	Benhar Coal Co. [L.]	10 0 0
50	Bilbao Iron Ore Co. [L.]	50 0 0
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0
4	Blaen Cwmbach Coal Co. [L.]	4 0 0
50	Blaenavon Iron and Steel Co. [L.]	50 0 0
100	Bolckow, Vaughan, and Co. [L.]...A	45 0 0
50	Bowling Iron Co. [L.]	50 0 0
50	Britannia Ironworks [L.]	25 0 0
50	Brown, Bailey, and Dixon [L.]	40 0 0
100	Brown, John, and Co. [L.]	70 0 0
5	Cakemore Colliery Co. [L.]	5 0 0
100	Cammell and Co. [L.]	80 0 0
20	Cannock and Huntington Coal [L.]	2 0 0
10	Cardiff & Swansea St. Coal Co. [L.]	8 0 0
10	Cardigan Steel and Wire Co. [L.]	8 10 0
10	Central Swedish Iron and Steel [L.]	10 0 0
5	Chapel House Colliery	5 0 0
50	Charlton Iron Co. [L.]	50 0 0
50	Chatterley Iron Co. [L.]	45 0 0
10	Chillington Iron Co. [L.]	10 0 0
1	Clee Hill Colliery Co. [L.]	1 0 0
10	Consett Iron Co. [L.]	7 10 0
1	Consett Spanish Ore [L.]	1 0 0
50	Cooke, William, and Co. [L.]	40 0 0
20	Darlington Iron Co. [L.]	10 0 0
50	Davy Brothers [L.]	22 10 0
5	Diamond Fuel Co. [L.]	5 0 0
32	Ebbw Vale Co. [L.]	29 0 0
100	Fox, Samuel, and Co. [L.]	80 0 0
10	General Mining Ass. [L.] (£1 returned)	9 0 0
20	Great Western Coal Co. [L.]	17 0 0
2	Gwyngwillim Colliery Co. [L.]	2 0 0
15	Hopkins, Gilkes, and Co. [L.]	11 0 0
50	Knowles, Andrew, and Sons [L.]	17 0 0
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0
5	Littledean Woodside Coll. Co. [L.]	5 0 0
50	Llynvi, Ogmore, & Tondu Co. [L.]	50 0 0
10	Lydney and Wigpool Iron Ore [L.]	8 5 0
10	Marbella Iron Ore Co. [L.]	10 0 0
6	Mersey Steel and Iron Co. [L.]	5 0 0
10	Midland Iron Co. [L.]	5 0 0
5	Mold Argoed Colliery Co. [L.]	5 0 0
10	Monkland Iron and Coal Co. [L.]	10 0 0
4	Mwyndy Iron Ore [L.]	3 10 0
100	Nant-y-Glo and Blaina (8 p.c. pref.)	100 0 0
1	Nerbudda Coal and Iron	0 8 0
20	New Sharlston Collieries [L.] Pref.	20 0 0
10	Newport Abercarn Coal Co. [L.]	10 0 0
10	Northmptn. Coal, Iron & Wagon [L.]	8 0 0
10	Northfield Iron Co. [L.]	8 0 0
1	Norton Green Coal Co. [L.]	1 0 0
35	Palmer's Shipbuilding and Iron [L.]	25 0 0
100	Parkgate Iron Co. [L.]	65 0 0
20	Patent Nut and Bolt Co. [L.]	14 0 0
20	Patent Shaft and Axletree [L.]	10 0 0
20	Pelsall Coal and Iron [L.]	15 0 0
50	Phœnix Bessemer Co. [L.]	40 0 0
50	Rhymney Iron Co. [L.]	50 0 0
100	Sandwell Park Colliery Co. [L.]	100 0 0
50	Ditto New	10 0 0
100	Shotts Iron Co. [L.]	100 0 0
100	Sheepbridge Iron and Coal [L.]	55 0 0
50	Silkstone & Dodworth Cl. & Iron [L.]	27 0 0
20	Skerne Ironworks [L.]	20 0 0
50	Somorrostro Iron Co. [L.]	50 0 0
20	South Wales Coal Co. [L.]	17 0 0
100	Staveley Iron and Coal Co. [L.]	60 0 0
100	Ditto ditto New	10 0 0
20	South Cleveland Ironworks [L.]	20 0 0
10	Swansea Valley Steam Coll. Co. [L.]	6 0 0
100	Thames Iron Company	100 0 0
50	Tredegar Iron and Coal Co. [L.]	12 0 0
25	Ditto B. shares	25 0 0
20	Ulverston Mining Co. [L.]	12 0 0
1	United Bituminous Collieries [L.]	1 0 0
10	Vancouver Coal [L.]	6 0 0
100	Vickers, Sons, & Co. [L.] 6 p. c. deb.	100 0 0
50	Welsh Ironworks Co. [L.]	50 0 0
25	W. Cumberland I. and Steel [L.]	20 0 0
10	West Mostyn Coal [L.] (12 p.c. pref.)	5 0 0
5	West Swansea Colliery Co. [L.]	5 0 0
10	Whitehaven Iron Co. [L.]	10 0 0
100	Wigan and Whiston Coal Co. [L.]	70 0 0
100	Wigan Coal and Iron Co. [L.]	75 0 0

WAGON COMPANIES.

Shares.	Company.	Paid.
10	Birmingham Wagon Co. [L.]	10 0 0
20	British Wagon Co. [L.]	10 0 0
20	Sheffield Wagon Co. [L.]	15 0 0
10	Yorkshire Wagon Co. [L.]	10 0 0

TELEGRAPH COMPANIES.

Shares.	Company.	Paid.
"St."	Anglo-American	100 0 0
10	Brazilian Submarine	10 0 0
20	Direct United States Cable	20 0 0
10	Eastern	10 0 0
10	East. Exten., Australia and China	10 0 0
10	Great Northern	10 0 0
25	Indo-European	25 0 0
10	Mediterranean Extension	10 0 0
8	Reuters	8 0 0
Stk.	Submarine	100 0 0
10	West India and Panama	10 0 0
20	Western and Brazilian	20 0 0
$1000	Western Union, 7 per cent. Mort. Bonds	$1000

MISCELLANEOUS.

Shares.	Company.	Paid.
Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0 0
25	Austral. Mort. Land and Finance [L.]	5 0 0
25	Australian Agricultural	21 10 0
10	Avonside Engine [L.]	7 0 0
Stk.	Baltimore and Ohio, 6 per cent.	100 0 0
Stk.	Cent. of New Jersey Con. Mort.	100 0 0
Stk.	Cent. Pacific of Calif., 1st Mort. 6 p.c.	100 0 0
25	City of London Real Property [L.]	12 0 0
25	Copper Miners of Eng. (7 p. c. pref.)	25 0 0
5	Credit Foncier of England [L.]	5 0 0
5	Diamond Rock Boring	4 10 0
15	English and Foreign Credit	8 0 0
16	Fore Street Warehouse [L.]	14 0 0
15	Foster, Porter, and Co. [L.]	10 10 0
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0
1	Glaisdale Whinstone Quarry	1 0 0
17	Hudson's Bay Company	17 0 0
10	Huntington Copper and Sul. Co.	9 0 0
Stk.	Illinois Central, $100 shares	100 0 0
Stk.	Illinois & St. Louis Bridge, 1st Mort.	100 0 0
Stk.	Ditto, 2nd Mort., 7 per cent.	100 0 0
Stk.	Illinois Cent. Sinking Fund, 5 p. cent.	100 0 0
Stk.	Ditto, 6 per cent.	100 0 0
7½	Imperial Credit [L.]	7 10 0
—	Ditto, Surplus Certificate	—
Stk.	Lehigh Val. Con. Mort., A, 6. p. cent.	100 0 0
10	Milner's Safe [L.]	10 0 0
25	National Discount [L.]	5 0 0
Stk.	N. Cent. Rail. Con. Mort., 6 per cent.	10 0 0
5	Patent Gunpowder Company	5 0 0
10	Pawson and Co. [L.]	6 0 0
50	Peninsular and Oriental Steam	50 0 0
Stk.	Pennsyl. Gen. Mort. 6 p. cent., 1910.	100 0 0
Stk.	Ditto, Con. Sink. Fund, 6 p. ct., 1905	100 0 0
Stk.	Scottish Aust. Investment Company.	100 0 0
Stk.	Ditto, 6 per cent. Preference	100 0 0
10	Silber Light (ord. sh.)	10 0 0
20	Suez Canal shares	20 0 0
12	Telegraph Construc. & Mainte. [L.]	12 0 0
5	Ditto, Second Bonus Three per Cents	5 0 0
10	Tharsis Sulphur and Copper Co.	10 0 0
Stk.	Union Pacific Land Grant, 1st Mort.	100 0 0
Stk.	Union Pacific Railway, 1st Mort.	100 0 0

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silv[er]; s-l, silver-lead; t, tin; z, zinc.
* Limited Liability Companies; † quoted on the Stock [Exchange]; ‡ have paid dividends.

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